HAYSVILLE PLANNING COMMISSION
& BOARD OF ZONING APPEALS

Agenda
March 23, 2023
6:00 p.m., Municipal Building, 200 W. Grand

I. Call to Order

II. Roll Call

III. Presentation and Approval of Minutes

   A. Minutes of February 23, 2023

IV. Special Order of Business

V. New Business

   A. Pre-Plat River Forest 3rd Addition

   B. Review of Haysville BPAC Plan 2023

   C. Review of the Haysville Park Plan 2023

VI. Old Business

VII. Correspondence

VIII. Off Agenda

IX. Adjournment

HAYSVILLE PLANNING COMMISSION/BOARD OF ZONING APPEALS
Minutes
February 23, 2023

The regular Planning Commission Meeting was called to order by Chairperson Tim Aziere at 6:20 p.m. in the Council Chambers at the Haysville Municipal Building, 200 W. Grand.

Those members present were: Jeff Blood, Fred Plummer, Nicole Franken, Tim Aziere, Debbie Coleman, and Mark Williams. Also present were Planning and Zoning Administrator Jonathan Tardiff, and Deputy Administrative Officer Georgie Carter.

The first item of business was the Minutes of January 12, 2023.

Motion by Coleman.
Second by Franken.
To approve the minutes as presented.
Blood abstain, Plummer aye, Franken aye, Aziere aye, Coleman aye, Adkins absent, Williams aye.
Motion carried.

There was no special order of business

Under new business was the Review of the ByLaws.

Tardiff stated that this was the annual review of the bylaws and the only change he was suggesting was under Article One Members Composition that we are add membership of the commission shall be established by Section 1-605-606 of the Haysville City Code.

Aziere asked the commission if there were any questions. There was none. Aziere asked the commission if there was any discussion. There was none. Aziere asked if he needed to make a motion to approve the change in the bylaws. Tardiff stated yes.

Aziere asked for a motion.
Motion by Coleman.
Seconded by Williams.
To approve the ByLaw as presented.
Blood aye, Plummer aye, Franken aye, Aziere aye, Coleman aye, Adkins absent, Williams aye.
Motion carried.

Under new business was the Updated Zoning District Chart.

Tardiff stated that this is the updated zoning district chart from the revisions we made last month. During a public hearing of a proposed district change, the planning commission may recommend a more restrictive zoning classification then proposed if the commission has previously made a list or table available to the public with the hierarchy of zoning classifications. Tardiff stated that this just needs the commission's approval.

Aziere asked for a motion.
Motion by Coleman.
Seconded by Williams.
To approve the updated zoning district chart as presented.
Blood aye, Plummer aye, Franken aye, Aziere aye, Coleman aye, Adkins absent, Williams aye.
Motion carried.

Under new business were the proposed Fees for the Planning Commission and Board of Zoning Appeals.

Tardif stated that in the packet were the proposed changes for the planning and zoning fees listed in chapter 17 of the city code as well as a comparison chart. Tardiff stated that this has not been updated in a while, and for the proposed fees we looked at staff time, publication fees, and the comparison chart. Tardiff stated he was looking for a recommendation to send to the city council.

Carter stated that when Tardiff said they had not been updated in a while, and that it has been in the last ten years, maybe longer than that.

Aziere asked if we had considered a preliminary and final plat the way Andover does. Carter stated she had considered it, but a lot of the plats turn into a one-step and was keeping it simple. Aziere said he was just asking if we had gone through the process, and sounds like we had. Carter stated she had looked at a couple of different things, and that the preliminary and final plat is usually turned in at the same time. Aziere asked if we felt confident we wouldn't get any huge plats that would make the $500 not enough. Aziere also mentioned they had not seen a plat that large in a while and the $40 plus $2 a lot provides security if we get a 400-lot subdivision. Carter stated that if they wanted to add something on there we could. Aziere said no, he just wanted the conversation.
Aziere asked if they should table this discussion for now if we wanted to look into it, or if they should put it through now. Carter stated she would like to put it through if possible because some of the fees are not set. She would like to have this on the council agenda next month. Carter also stated that some of these fees you can see are quite low. Carter said she would make a note to look into fees for additional lots over one as a large plat.

Williams asked if they could put a time limit on when to review the fees again like in two years. Aziere said they could review this at any time they wanted. Carter said yes and it just takes an ordinance to update the fees.

Coleman asked on the last page concerning fee comparisons, why some of the fees are lower than everyone else. Carter stated that these fees had not been reviewed in fifteen or twenty years. Carter stated she agreed with City of Derby on their fees. The fee is the same for everything that requires a public hearing, they take a similar amount of time. The other cities may not have reviewed their fees in a while. Coleman noticed that under plats we are charging $40, Valley Center is charging $350 for preliminary plats $150 for final plats, and they have a sketch plan at $50. Carter stated that some of these look like they had not been reviewed in a while. Carter stated that Derby's and MAPD have been reviewed recently. Carter said cost and wages have increased, and she could

DRAFT

not for a 100 percent sure know if some cities have reviewed their fees or not. Carter said she did feel our fees were unreasonable.

Aziere asked for a motion.
Motion by Williams.
Seconded by Coleman.
To approve the proposed fees for the Planning Commission and Board of Zoning Appeals as presented.
Blood aye, Plummer aye, Franken aye, Aziere aye, Coleman aye, Adkins absent, Williams aye.
Motion carried.

There was no old business.

There was no correspondences.

There was no off-agenda items.

Motion by Coleman.
Second by Franken and Plummer.
To adjourn tonight's meeting
Blood aye, Plummer aye, Franken aye, Aziere aye, Coleman aye, Adkins absent, Williams aye.
Motion carried.

The meeting adjourned at 6:30 pm

DRAFT

Haysville Planning Commission Staff Report

AGENDA ITEM: V-A

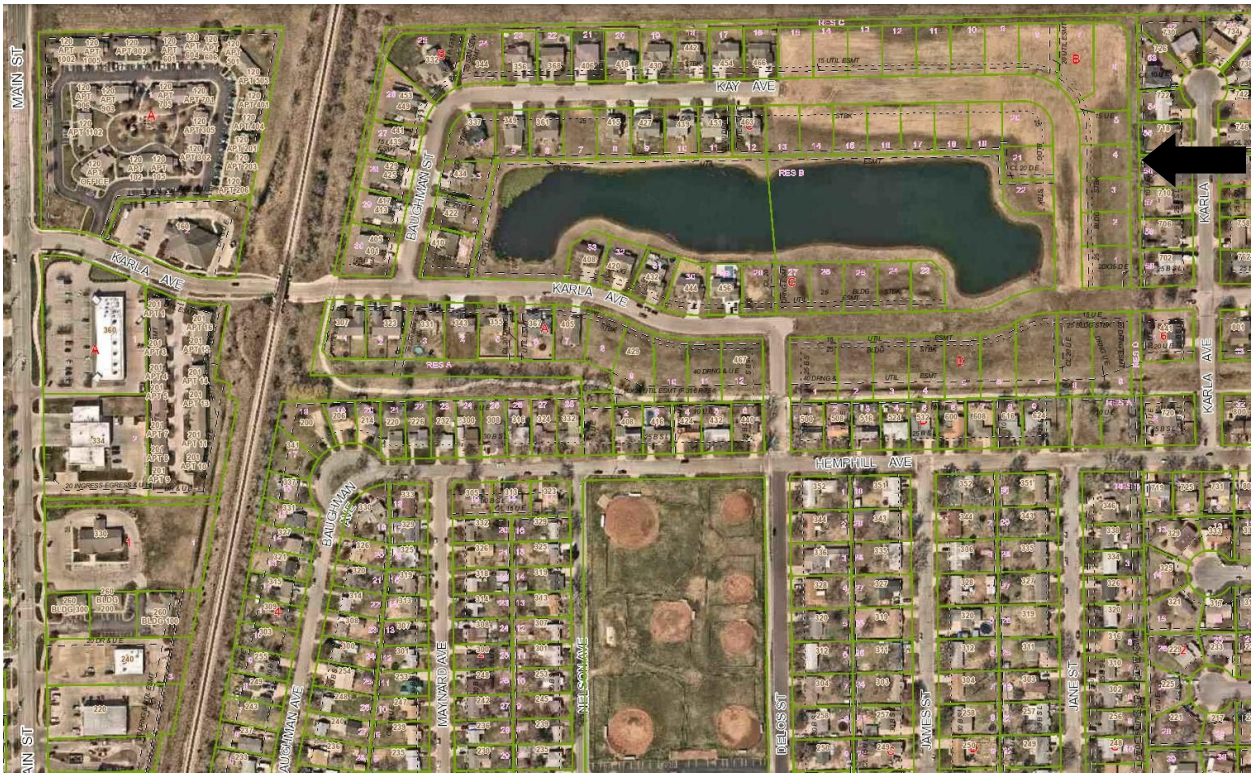
Subject:	Preliminary Plat 2022-02 "River Forest 3rd Addition"
Applicant/Agent:	Mr. James Klausman/ Mr. Travis Haizlip
Request:	Replat of Lots 1-15, Block B, Lots 13-27, Block C, and Lots 1-9, Block D, all in the River Forest 2nd Addition located in the Southwest Quarter of Section 32, Township 28 South, Range 1 East of the 6th P.M. Haysville, Sedgwick County, Kansas**.**
Site Size:	13.32 acres
Zoning:	Residential
Location:	Delos St and Karla Ave.
Meeting Date:	March 23, 2023
Presented By:	Jonathan Tardiff, Planning and Zoning Administrator

ANTICIPATED MEETING SCHEDULE

Body	***Meeting Date***	***Action***
Planning Commission	3/23/2023	Preliminary plat for review and comments.
City Council Meeting		Preliminary Plat does not go before Council.

LOCATION

Area of application is marked with an arrow below:



REQUEST

Preliminary Plat of "River Forest 3rd Addition" located North of Karla Ave., more commonly known as North of Delos Street and Karla Ave.
The applicant owns the property and wants to build an assisted living center.

In the Subdivision Regulations for Haysville, Kansas Article IX. Building Permits Section 1. Permits.

- No building permit, zoning certificate or occupancy certificate, except for the situations indicated shall be issued for a building or structure on any lot of any subdivision that is subject to the provisions of these regulations until a certified copy of the duly recorded or registered plat of subdivision has been filed with the official charged with issuing building permits and/or zoning certificates. No such permits or certificates shall be issued until there has been compliance with all of the provisions of these regulations, including but not limited to provisions of these regulations related to approval of plans and specifications for required improvements and the posting of bonds and establishment of escrows to secure the completion of such improvements.

- No occupancy certificate for the use of any structure or use within a subdivision approved for platting, replatting or lot splitting shall be issued until required utility facilities have been installed and made ready to service the property; roadways providing access to the subject lot or lots have been constructed or are in the course of construction; or guarantees have been provided to ensure the installation of such utilities and roadways.

The Property needs to be replatted to build on as the plat of River Forest Addition 2nd addition is designed for single-family homes.
The southern part of the proposed replat, Lot 1 Block B, and Lot 1 Block C will need to go through a conditional use as they are not part of the conditional use that was done in 2022 for the proposed assisted living center proposal.

BACKGROUND INFORMATION

The property zoning district is "SF" Residential and went through a Conditional Use January 27, 2022 that was approved by the Planning Commission.
City Council approved the Conditional use on February 14, 2022.

RECOMMENDED ACTION

The property conforms to Article IV. Section 19 and Article V. Section 3 of the Haysville Subdivision Regulations.

Staff recommends the approval of the preliminary plat and that the applicant utilize submitted comments before submittal of the final plat for approval.

ATTACHMENTS

Preliminary Plat of the Area
Drainage Concept Plan
Kansas Gas Map
Evergy Memo
PEC Comments on Plat in Red
Email from Susie Sutton
Letter from Ryan Lavers

COMMENTS

Response from Utility Companies on Preliminary Plat "River Forest 3rd Addition."

3/1/23 Sedgwick County Surveyor commented that the legal description in its entirety should be shown on the Preliminary Plat and would like to see the final plat when submitted.

3/2/23 Kansas Gas has reviewed the preliminary plat and has no conflicts.

3/3/23 Evergy reviewed the preliminary plat and does not require additional easements at this time. Evergy also commented that they will be on the north side away from the drainage pond.

3/3/23 Sedgwick County Fire District 1 commented that they will need a fire apparatus access road between the "Proposed Independent Living" and the "Proposed Assisted Living" buildings to access the rear sides of the buildings. In addition, they will also need fire apparatus access road on the south side of the "Proposed Assisted Living" building to access the rear side of the building.

3/14/23 PEC had these comments:

- Need Easements for waterline and sanitary sewer.
- Need adequate separation of City utilities from private facilities (pavement, etc.) to allow access to utility without damaging private facilities.
- What is the intent to handle future expansion of undeveloped space as it relates to drainage? Creating a separate drainage plan/study as development occurs or should it be handled now? Calculations in the report show it remaining as pervious area for proposed conditions.
- Please provide a plan sheet showing structure numbers as they relate to Appendix C for our review of the calculations.
- Appendix C calculations appear to only analyze the proposed pipes and not the existing pipes that they tie into on the downstream end. Since the existing pipe will have a backwater effect on the overall system, please revise the calculations to include the system with the existing pipes as well. Running calculations without the existing pipes will not provide an accurate analysis for HGL's.
- Something seems off with the hydrologic calculations. If proposed subbasin 2 has a larger area and a higher average curve number due to the added impervious area versus the Existing subbasin 2, why are the flow rates of the proposed condition

subbasin 2 smaller? Why does the change-in-flow go up and down for some of the subbasins as summarized in the table at the top of page 5 in the report? The pre-developed 10-year flowrate for subbasin 5 seems like a typo (looks like it maybe should be 0.34 cfs). Please explain or revise as needed.

- Since the flowrates for the proposed subbasin 2 should be larger than the existing subbasin 2 flowrates, and this subbasin flows directly into the pond, what is the impact to the stage-storage relationship of the pond? Is analysis of the pond needed? The pond outlets through a pipe that connects to the overall storm sewer system being modified with this project. Do downstream modified pipe sizes/flowrates to the overall system impact the pond drainage?
- Please provide details of the underground storage system and the associated drainage calculations for our review.
- It's difficult to tell on the plan sheet provided which subbasins drain into the underground storage system (which appears to be located under the parking lot). If subbasins 50 through 65 are supposed to drain to the underground storage system, how do they flow towards its location if their flow enters the storm sewer system downstream of the storage unit?
- Please provide the water quality calculations related to the results provided in Appendix B.
- The original plat included single-family lots in this area. While the proposed development may increase runoff compared to single family, surface drainage from this entire property should be discharged into the adjacent existing pond.
- No discharge into the ditch near the north property line.
- Karla storm sewer system should discharge into the existing pond rather than discharging into ditch near the southeast corner of the property.
- Where possible, combine piping systems to minimize the number of discharge points into the pond (for easier maintenance)
- The existing pond will provide some stormwater detention if the size is sufficient. Can the underground tank stormwater detention system located near the east entrance to the Assisted Living building be eliminated or reduced in size??
- Provide updated Drainage Plan with the modified storm sewer system and provide maximum water elevation in the pond based on the 100-year storm. Compare proposed stage-storage-discharge to existing conditions. Some additional flood storage may be required if the existing pond is not big enough. The proposed maximum water surface elevation in the pond should not exceed the elevations established in the original plat since existing homes have been constructed to that elevation. This will probably affect some of Riley's comments.
- Show water and sewer service to the Proposed Independent Living building.
- Portion of the existing N-S water line will need to be relocated around the proposed building entrance canopy.
- See attached markup for roadway and paving.

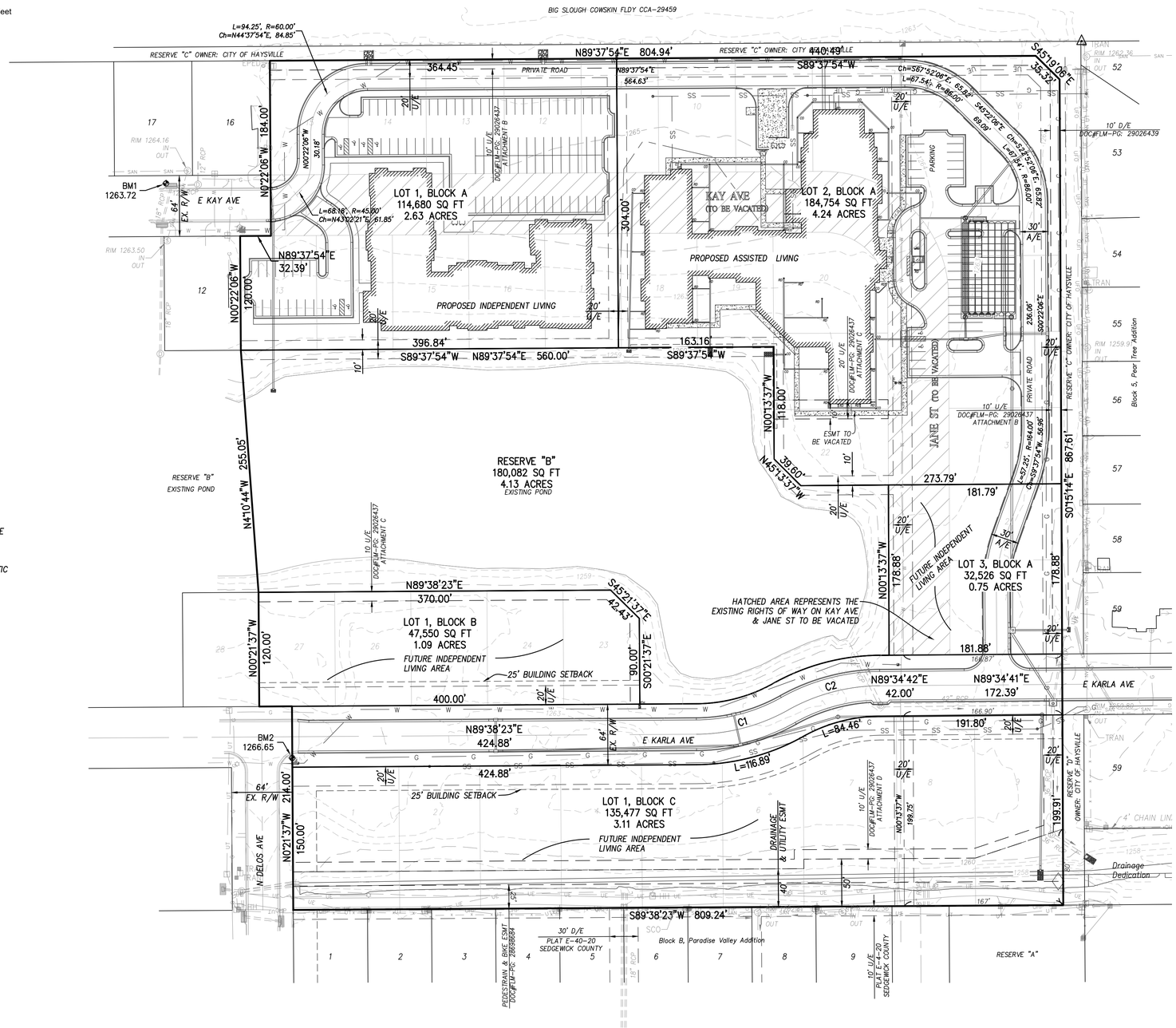
PRELIMINARY PLAT

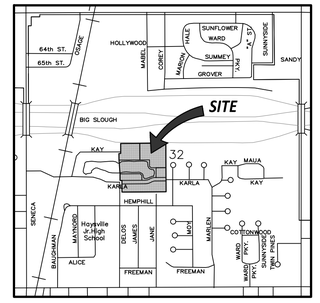
RIVER FOREST 3RD ADDITION

A replat of Lots 1 - 15, Block B, Lots 13 - 27, Block C, Lots 1 - 9, Block D, & part of Reserve B, all in River Forest 2nd Addition, located in the Southwest Quarter of Section 32, Township 28 South, Range 1 East of the 6th P.M., City of Haysville, Sedgwick County, Kansas.

1" = 60'

0 60 120 Feet





VICINITY MAP
NO SCALE

LEGEND

- *A/E ACCESS EASEMENT*
- *U/E UTILITY EASEMENT*
- *D/E DRAINAGE EASEMENT*
- *SANITARY MANHOLE*
- *STORM SEWER MANHOLE*
- *TRAFFIC MANHOLE*
- *TELEPHONE MANHOLE*
- *ELECTRICAL MANHOLE*
- *STORM INLET*
- *TRAFFIC SIGNAL BOX*
- *TELEPHONE BOX*
- *TELEPHONE PEDESTAL*
- *—UT— UNDERGROUND TELEPHONE*
- *—UE— UNDERGROUND ELECTRIC*
- *—UFO— UNDERGROUND FIBER OPTIC*
- *—W— WATER LINE*
- *—G— GAS LINE*
- *STORM SEWER*
- *—SAN— SANITARY SEWER*
- *WATER METER*
- *WATER VALVE*
- *GAS VALVE*
- *GAS METER*
- *FIRE HYDRANT*

BM 1 *EL:1263.72*
NE corner inlet North side Kay Ave (454 E Kay Ave)

BM 2 *EL:1266.65*
X cut on the South bolt of the fire hydrant @ the SE quadrant of the intersection of Karla Ave & Delos St

BM 3 *EL:1259.34*
SE corner inlet on the East side of Karla Ct (801 E Karla Ave)

Date of topographic survey: 06-02-22

Existing use of property: Vacant Lots / Residential

Existing zoning of subject property: Single Family 20,000 (SF-20)

Existing zoning of adjacent properties: Single Family 20,000 (SF-20)

Proposed use of property: Assisted Living

Notes:

1) *A drainage plan has been developed for the subdivision & will be submitted with the Final Plat. All drainage easements, rights of way, or reserves shall remain at the established grades or as modified with the approval of the applicable City or County Engineer & unobstructed to allow for the conveyance of storm water.*

Owner / Developer:
Midwest Health, Inc.
3024 SW Wanamaker Rd, Suite 300
Topeka, KS 66614

Engineer / Surveyor:
CFS Engineers
2930 SW Woodside Dr
Topeka, KS 66614

CFS ENGINEERS
2930 SW Woodside Dr, Topeka, KS 66614
o: 785-272-4706 f: 785-272-4736

G:\Shared drives\225418\CAD\Platting, Zoning, and Legal Survey\225418 prelim.dwg

Midwest Health Haysville
Drainage Report

Submitted to:

City of Haysville

Prepared & Submitted By:

Cook, Flatt & Strobel Engineers, P.A.
2930 SW Woodside Drive
Topeka, KS 66614
785.272.4706

Submitted For: Midwest Health

Date: March 1, 2023

CF&S Proj. No.: 22-5418

Table of Contents:

Submitted By:

Corbin T Pfrang, P.E.

Subdivision Data:

The project will include adding 149,400 S.F. (3.43 acres) of impervious area from the construction of a road, parking lot, and building. The current site is undeveloped consisting of grass.

Hydrological Data:

The pre-developed drainage basin is split into five basins with 4 main outfall locations. Area 1 drains to the north, Area 2 drains into the pond that neighbors the property. Area 3 enters a storm sewer system where it meets with the pond's outfall pipe and Area 4. Area 4 drains south into an open channel before flowing east where it combines with the discharge from the pond and Area 3. Area 5 flows east into a city street where the flow joins the runoff from Area 3, 4, and the pond outfall. The proposed project will still have the same drainage areas draining to their current locations. The proposed underground detention facility will drain into the same storm system as Area 3 and then exit to the southeast with the other areas.

Hydraulic Discussion:

The proposed improvements will result in an increase in peak discharge for the site. This increase will be mitigated by the proposed underground detention system. The SCS formula was utilized to calculate the peak runoff rates. The hydrograph calculations are included in the appendix to this report. The following tables show the change in runoff patterns and how the increase from the site has been mitigated.

Facility	Base El.	9" Orifice	9" Orifice	Top of Weir Wall	5 Yr El.	10 Yr El.	25 Yr El.	50 Yr El.	100 Yr El.
ADS System	1252.88	1252.88	1254.88	1256.78	1255.25	1255.63	1256.25	1256.85	1257.35

PRE-DEVELOPED

Area	Imp. Area	Per. Area	Total Area
1	0.00	2.69	2.69
2	0.00	5.14	5.14
3	0.00	2.13	2.13
4	0.00	3.04	3.04
5	0.00	0.10	0.10
Site Total	0.00	13.10	13.10

Area	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr
1 (North Exit)	6.19	8.20	11.19	13.66	16.25
2 (Into Pond)	15.02	19.73	26.85	32.71	38.86
3 (SE Storm sewer)	5.54	7.32	9.99	12.19	14.50
4 (SE Channel)	6.99	9.26	12.65	15.43	18.36
5 (East Road Exit)	0.25	0.04	0.46	0.56	0.66
Combined (SE Exit)	12.53	16.54	22.52	27.44	32.60

POST-DEVELOPED

Area	Imp. Area	Per. Area	Total Area
10	0.24	0.41	0.65
20	0.00	2.18	2.18
21	0.12	0.25	0.37
22	0.31	0.00	0.31
23	0.03	2.74	2.77
24	0.07	0.00	0.07
25	0.07	0.00	0.07
Total 2	0.60	5.17	5.77
30	0.00	0.86	0.86
31	0.10	0.00	0.10
32	0.02	0.00	0.02
33	0.05	0.00	0.05
Total 3	0.17	0.86	1.03
40	0.00	2.57	2.57
41	0.08	0.00	0.08
42	0.08	0.00	0.08
43	0.22	0.00	0.22
44	0.16	0.00	0.16
Total 4	0.54	2.57	3.11
50	0.15	0.00	0.15
60	0.49	0.00	0.49
61	0.52	0.17	0.69
62	0.26	0.30	0.56
63	0.17	0.00	0.17
64	0.17	0.19	0.36
65	0.12	0.00	0.12
Total ADS	1.73	0.66	2.39
Site Total	**3.43**	**9.67**	**13.10**

Area	5 Year	10 Year	25 Year	50 Year	100 Year
10 (North Exit)	2.42	3.02	3.90	4.60	5.33
20	5.75	7.60	10.37	12.65	15.05
21	1.54	1.93	2.49	2.95	3.42
22	1.82	2.14	2.59	2.95	3.32
23	6.46	8.53	11.63	14.17	16.84
24	0.41	0.48	0.58	0.67	0.75
25	0.41	0.48	0.58	0.67	0.75
Post 2 (Into Pond)	**14.98**	**19.47**	**26.14**	**31.62**	**37.37**
30	1.98	2.62	3.58	4.37	5.20
31	0.06	0.07	0.08	0.10	0.11
32	0.12	0.14	0.17	0.19	0.21
33	0.29	0.35	0.42	0.48	0.54
Post 3 (SE Storm sewer)	**2.21**	**2.89**	**3.90**	**4.74**	**5.61**
40	5.91	7.83	10.69	13.05	15.52
41	0.47	0.55	0.67	0.76	0.86
42	0.47	0.55	0.67	0.76	0.86
43	1.29	1.52	1.84	2.09	2.36
44	0.94	1.10	1.34	1.52	1.71
Post 4 (SE Channel)	**7.92**	**10.16**	**13.52**	**16.27**	**19.17**
50 (East Road Exit)	0.88	1.03	1.25	1.43	1.61
60	2.82	3.31	4.01	4.57	5.14
61	3.74	4.47	5.50	6.32	7.17
62	1.95	2.41	3.07	3.60	4.15
63	0.95	1.12	1.36	1.55	1.74
64	1.25	1.55	1.97	2.31	2.67
65	0.71	0.83	1.00	1.14	1.29
Into ADS system	10.70	12.82	15.85	18.28	20.79
ADS System Out	3.05	4.05	5.13	6.10	9.42
Area 3+ ADS (SE Storm sewer)	4.89	6.59	8.64	10.21	14.37
Combined 3&4 (SE Exit)	**12.50**	**16.10**	**21.75**	**26.07**	**31.65**

CHANGE

Area	5-Year	10-Year	25-Year	50-Year	100-Year
1 (North Exit)	**-3.77**	**-5.18**	**-7.29**	**-9.06**	**-10.92**
2 (Into Pond)	**-0.04**	**-0.26**	**-0.71**	**-1.09**	**-1.49**
3 (SE Stormsewer)	-0.65	-0.73	-1.35	-1.98	-0.13
4 (SE Channel)	0.93	0.90	0.87	0.84	0.81
5 (East Road Exit)	**0.63**	**0.99**	**0.79**	**0.87**	**0.95**
Combined 3&4 (SE Exit)	**-0.03**	**-0.44**	**-0.77**	**-1.37**	**-0.95**

The change in discharge for five drainage areas that are currently on the site is shown above. The 5 areas discharge to four main outlet locations. Three of the four main outlet locations decrease with the fifth outlet location experience a minor increase. This increase is due to the addition of pavement for a public street. This increase in runoff joins the rest of the discharge from the site before flowing on south out of the city.

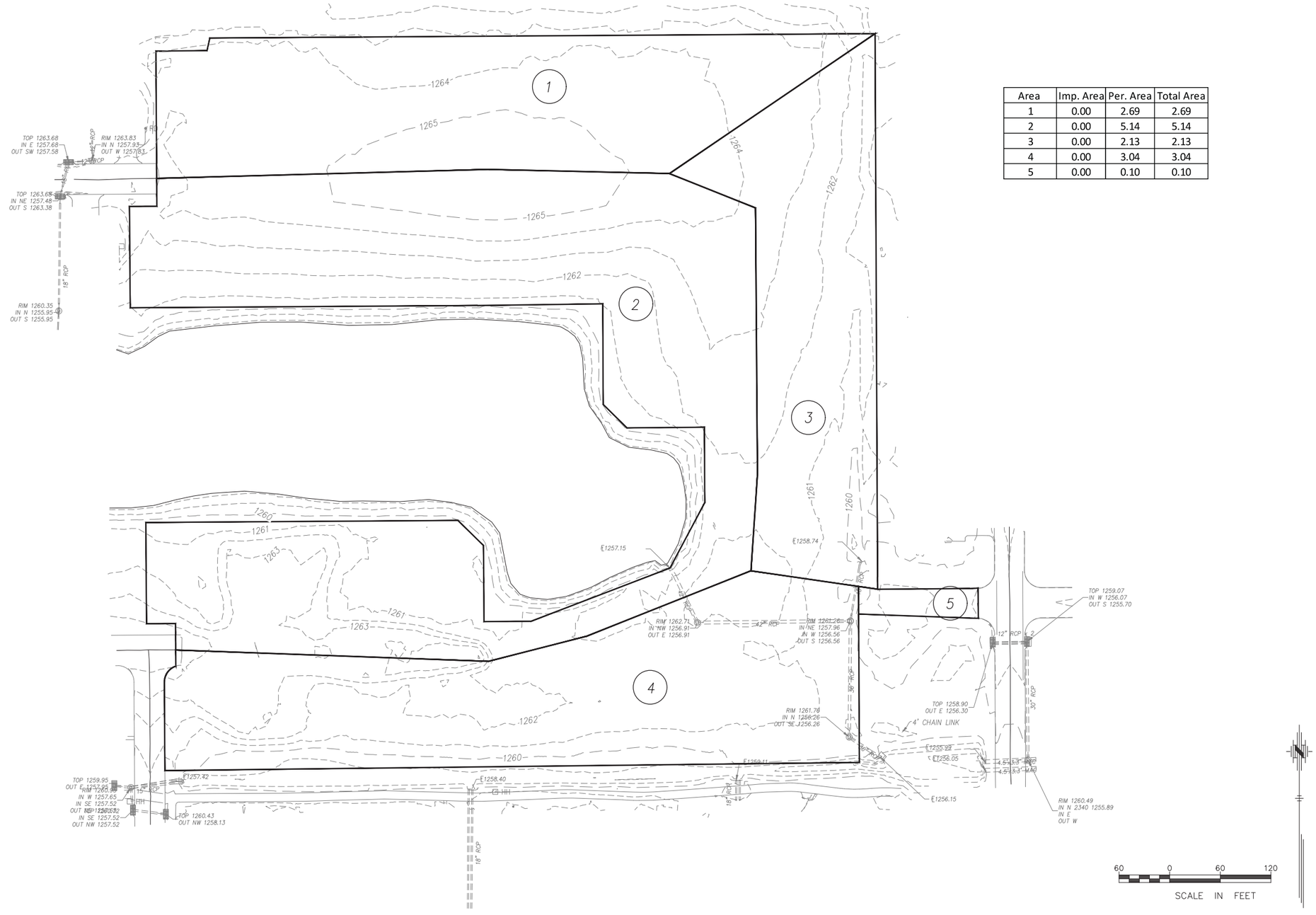
Water Quality Discussion:

The proposed site improvements result in a total disturbed area of 13.10 acres. The underground detention system will act as the water quality treatment. Using BMP Worksheet 1 from the Marc Manual for an undeveloped site, a Level of Service of 7 was calculated for the site based on the increase in total impervious surface area. To meet the BMP water quality treatment requirements, Worksheet 2 was used to develop a mitigation package to provide the post-development conditions with a Level of Service of 17.93. This Level of Service is achieved do to 2.39 acres being treated through the underground detention system before discharging off site.

Conclusions:

The proposed project site should not have any adverse effects on the City of Haysville drainage system. The slight increase in runoff from the proposed street is minimal increase for all storm events.

APPENDIX A



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SEAL:

DESIGNER:

CFS ENGINEERS
cfse.com

CFS PROJECT NO:
22-5418

PRE-DRAINAGE MAP

MIDWEST HEALTH
DRAINAGE REPORT
HAYSVILLE, KANSAS

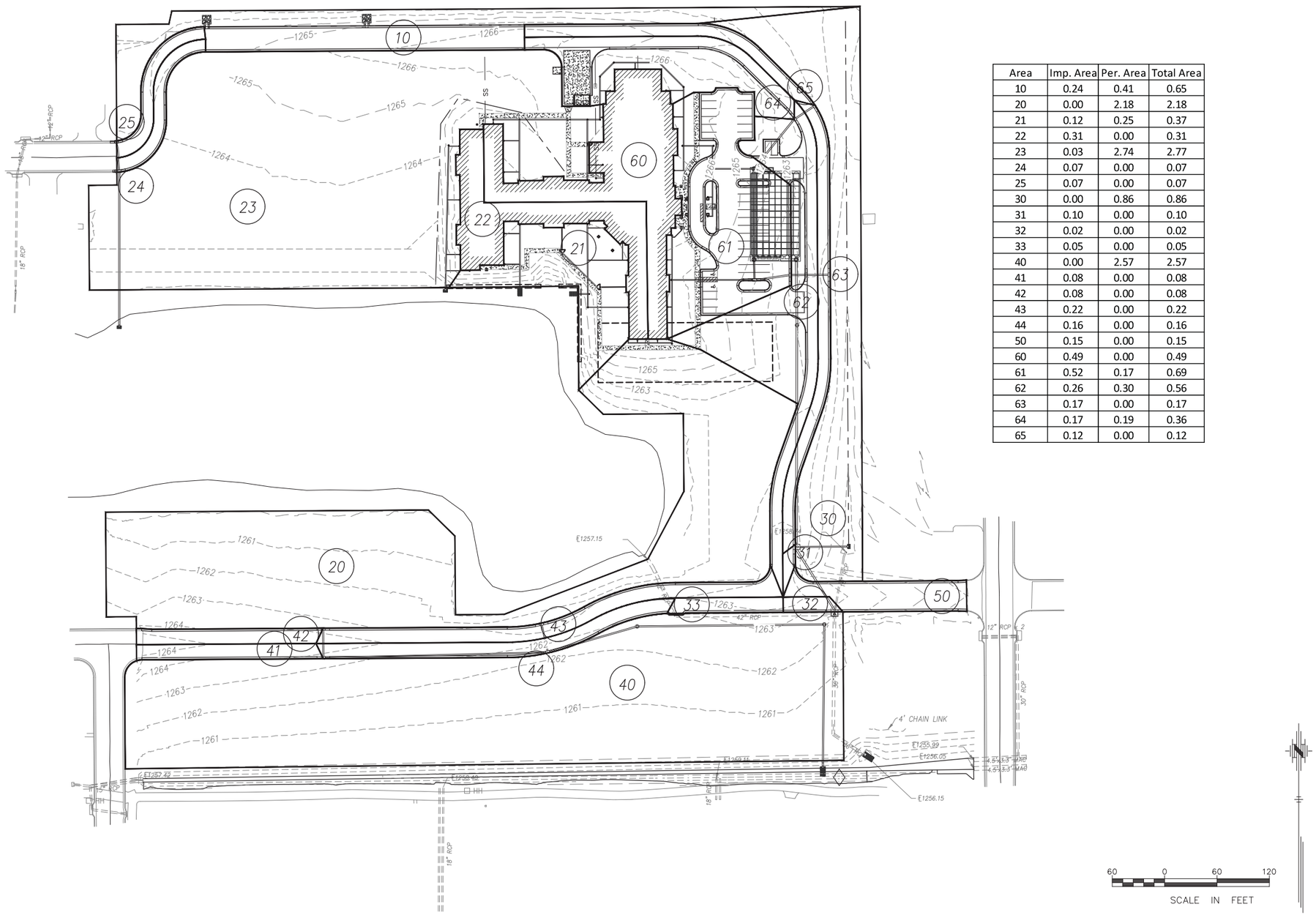
DRAWN BY:
CHECKED BY:
DATE:
REV:

REVISIONS:

NO.	DATE	DESCRIPTION

SHEET NUMBER:

ORIGINAL CONTRACT DOCUMENT



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23	0.03	2.74	2.77
24	0.07	0.00	0.07
25	0.07	0.00	0.07
30	0.00	0.86	0.86
31	0.10	0.00	0.10
32	0.02	0.00	0.02
33	0.05	0.00	0.05
40	0.00	2.57	2.57
41	0.08	0.00	0.08
42	0.08	0.00	0.08
43	0.22	0.00	0.22
44	0.16	0.00	0.16
50	0.15	0.00	0.15
60	0.49	0.00	0.49
61	0.52	0.17	0.69
62	0.26	0.30	0.56
63	0.17	0.00	0.17
64	0.17	0.19	0.36
65	0.12	0.00	0.12

SEAL:

DESIGNER:

CFS ENGINEERS
cfse.com

CFS PROJECT NO:
22-5418

POST-DRAINAGE MAP

MIDWEST HEALTH
DRAINAGE REPORT
HAYSVILLE, KANSAS

DRAWN BY:
CHECKED BY:
DATE:
REV:

REVISIONS:

NO.	DATE	DESCRIPTION

SHEET NUMBER:

ORIGINAL CONTRACT DOCUMENT

APPENDIX B

Cook, Flatt & Strobel Engineers, P.A.
2930 SW Woodside Drive
Topeka, Kansas 66614
Telephone (785) 272-4706
www.cfse.com

Project:Hayville
Project# 22-5418
Designer: CP
Date: 2/28/23
File: "2012 Manual - BMP Worksheet 1"

WORKSHEET 1: REQUIRED LEVEL OF SERVICE - UNDEVELOPED SITE

1. Runoff Curve Number

A. Pre-Development Conditions Curve Number (CN)

Cover Description	Soil HGS	CN from Table 1	Area (ac.)	Product of CN x Area
Open Space(Fair Condition)	B	74	13.10	969
		Totals	13.10	969

Area-Weighted CN = Total Product / Total Area = 74

B. Post-Development Conditions Curve Number (CN)

Cover Description	*-Soil HGS	CN from Table 1	Area (ac.)	Product of CN x Area
Open Space(Good Condition)	B	80	2.67	214
Parking Lots, Roofs, Streets	B	98	3.43	336
Open Space(Fair Condition)	B	74	7.00	518
		Totals	13.10	1068

Area-Weighted CN = Total Product / Total Area = 82

*-Soil HGS: Post-development CN is one HSG rating higher for all cover types except preserved vegetation, absent documentation showing how post-development soil structure will be preserved.

C. Level of Service (LS) Calculation

Pre-Development CN	74
Post-Development CN	82
Difference:	8
LS Required (See Scale at Right)	7

Change in CN	LS
17+	8
7 to 16	7
4 to 6	6
1 to 3	5
0	4
-7 to -1	3
-8 to -17	2
-18 to -21	1
-22 -	0

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File: "2012 Manual - BMP Worksheet 2"

WORKSHEET 2: DEVELOP MITIGATION PACKAGE(S) THAT MEET REQUIRED LS

1. Required LS (New Development, Worksheet 1), or Total VR (Redevelopment Worksheet 1A) 5.00

2. Proposed BPM Option Package No. 1

	Cover / BMP Description	Treatment Area	VR from Table 4.4 or 4.6	Product of VR x Area
1.	ADS Stormtech	2.39	7.50	17.93
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	Totals	2.39	Totals	17.93

Weighted VR: 17.93

Meets Required LS (Yes / No)? Yes

3. Proposed BPM Option Package No. 2

	Cover / BMP Description	Treatment Area	VR from Table 4.4 or 4.6	Product of VR x Area
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	Totals		Totals	0.00

Weighted VR: 0.00

Meets Required LS (Yes / No)? Yes

APPENDIX C

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	24.525	88.179	Comb	0.00	0.00	0.00	0.0	1257.38	0.77	1257.57	24	Cir	0.012	2.25	1264.04	Pipe - (12)
2	1	94.578	92.443	None	0.00	0.49	0.95	5.0	1257.57	5.36	1262.64	12	Cir	0.012	1.00	1265.00	Pipe - (21)
3	1	42.667	-97.216	Comb	0.00	0.69	0.78	6.0	1257.57	0.68	1257.86	18	Cir	0.012	0.50	1262.94	Pipe - (13)
4	3	22.329	8.668	Comb	0.00	0.56	0.58	15.0	1257.86	0.72	1258.02	15	Cir	0.012	0.50	1262.08	Pipe - (14)
5	4	22.329	0.000	Comb	0.00	0.19	0.95	7.0	1258.02	0.76	1258.19	15	Cir	0.012	1.00	1261.22	Pipe - (14)(2)
6	End	177.086	-89.967	Comb	0.00	0.07	0.95	5.0	1258.08	1.03	1259.91	15	Cir	0.012	0.50	1263.81	Pipe - (17)
7	6	36.015	-5.319	Comb	0.00	0.07	0.95	5.0	1259.76	1.00	1260.12	15	Cir	0.012	1.00	1263.87	Pipe - (18)
8	End	164.665	-89.409	MH	0.00	0.00	0.00	0.0	1256.23	0.50	1257.05	18	Cir	0.012	1.00	1262.16	Pipe - (19)
9	8	214.442	-91.211	MH	0.00	0.00	0.00	0.0	1257.05	0.50	1258.13	18	Cir	0.012	0.32	1262.45	Pipe - (20)
10	9	106.503	-15.935	Comb	0.00	0.16	0.95	5.0	1258.13	0.29	1258.44	18	Cir	0.012	1.50	1262.11	Pipe - (6)
11	10	257.495	15.074	Comb	0.00	0.08	0.95	5.0	1258.44	0.50	1259.73	15	Cir	0.012	1.50	1263.24	Pipe - (8)
12	11	35.000	91.110	Comb	0.00	0.08	0.95	5.0	1259.73	0.51	1259.91	15	Cir	0.012	1.00	1263.25	Pipe - (9)
13	10	35.000	93.842	Comb	0.00	0.22	0.95	5.0	1258.44	1.23	1258.87	15	Cir	0.012	1.00	1262.11	Pipe - (7)
14	End	72.918	-50.984	Comb	0.00	0.36	0.58	15.0	1257.38	2.24	1259.01	15	Cir	0.012	0.53	1262.39	Pipe - (15)
15	14	29.000	17.636	Comb	0.00	0.12	0.95	5.0	1259.01	1.00	1259.30	15	Cir	0.012	1.00	1262.73	Pipe - (16)
16	End	38.082	-79.452	Comb	0.00	0.03	0.95	5.0	1256.56	0.50	1256.75	18	Cir	0.012	0.50	1262.06	Pipe - (11)
17	16	34.154	4.242	DrCrb	0.00	0.86	0.25	15.0	1256.75	0.50	1256.92	18	Cir	0.012	0.51	1259.29	Pipe - (10)
18	17	336.037	-16.886	MH	6.59	0.00	0.00	0.0	1256.91	0.50	1258.59	15	Cir	0.012	1.00	1260.87	Pipe - (22)

Project File: 225418 Storm Sewer 10yr.stm

Number of lines: 18

Date: 3/2/2023

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	Structure - (11)	Combination	1264.04	Rect	3.25	2.25	24	Cir	1257.57	12 18	Cir Cir	1257.57 1257.57
2	Null Structure	None	1265.00	n/a	n/a	n/a	12	Cir	1262.64			
3	Structure - (12)	Combination	1262.94	Rect	3.25	2.25	18	Cir	1257.86	15	Cir	1257.86
4	New	Combination	1262.08	Rect	3.25	2.25	15	Cir	1258.02	15	Cir	1258.02
5	Structure - (13)	Combination	1261.22	Rect	3.25	2.25	15	Cir	1258.19			
6	Structure - (17)	Combination	1263.81	Rect	3.25	2.25	15	Cir	1259.91	15	Cir	1259.76
7	Structure - (18)	Combination	1263.87	Rect	3.25	2.25	15	Cir	1260.12			
8	Structure - (21)	Manhole	1262.16	Cir	4.00	4.00	18	Cir	1257.05	18	Cir	1257.05
9	Structure - (19)	Manhole	1262.45	Cir	4.00	4.00	18	Cir	1258.13	18	Cir	1258.13
10	Structure - (5)	Combination	1262.11	Rect	3.25	2.25	18	Cir	1258.44	15 15	Cir Cir	1258.44 1258.44
11	Structure - (7)	Combination	1263.24	Rect	3.25	2.25	15	Cir	1259.73	15	Cir	1259.73
12	Structure - (6)	Combination	1263.25	Rect	3.25	2.25	15	Cir	1259.91			
13	Structure - (4)	Combination	1262.11	Rect	3.25	2.25	15	Cir	1258.87			
14	Structure - (15)	Combination	1262.39	Rect	3.25	2.25	15	Cir	1259.01	15	Cir	1259.01
15	Structure - (16)	Combination	1262.73	Rect	3.25	2.25	15	Cir	1259.30			
16	Structure - (9)	Combination	1262.06	Rect	3.25	2.25	18	Cir	1256.75	18	Cir	1256.75
17	Structure - (24)	DropCurb	1259.29	Rect	3.25	3.25	18	Cir	1256.92	15	Cir	1256.91
18	Structure - (25)	Manhole	1260.87	Cir	4.00	4.00	15	Cir	1258.59			

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (12)	7.78	24	Cir	24.525	1257.38	1257.57	0.774	1258.21	1258.56	0.88	1258.56	End	Combination
2	Pipe - (21)	3.37	12	Cir	94.578	1257.57	1262.64	5.361	1258.56	1263.43	n/a	1263.43 j	1	None
3	Pipe - (13)	5.41	18	Cir	42.667	1257.57	1257.86	0.680	1258.56	1258.76	n/a	1258.76 j	1	Combination
4	Pipe - (14)	2.63	15	Cir	22.329	1257.86	1258.02	0.717	1258.76	1258.67	n/a	1258.67	3	Combination
5	Pipe - (14)(2)	1.21	15	Cir	22.329	1258.02	1258.19	0.761	1258.67	1258.62	n/a	1258.62 j	4	Combination
6	Pipe - (17)	0.91	15	Cir	177.086	1258.08	1259.91	1.033	1258.38	1260.28	0.07	1260.28	End	Combination
7	Pipe - (18)	0.48	15	Cir	36.015	1259.76	1260.12	1.000	1260.28	1260.39	n/a	1260.39 j	6	Combination
8	Pipe - (19)	2.76	18	Cir	164.665	1256.23	1257.05	0.498	1256.84	1257.68	n/a	1257.68	End	Manhole
9	Pipe - (20)	2.91	18	Cir	214.442	1257.05	1258.13	0.504	1257.68	1258.78	n/a	1258.78	8	Manhole
10	Pipe - (6)	2.99	18	Cir	106.503	1258.13	1258.44	0.291	1258.87	1259.18	0.28	1259.46	9	Combination
11	Pipe - (8)	1.05	15	Cir	257.495	1258.44	1259.73	0.501	1259.46	1260.13	n/a	1260.13 j	10	Combination
12	Pipe - (9)	0.55	15	Cir	35.000	1259.73	1259.91	0.514	1260.13	1260.20	n/a	1260.20 j	11	Combination
13	Pipe - (7)	1.51	15	Cir	35.000	1258.44	1258.87	1.229	1259.46	1259.36	n/a	1259.36	10	Combination
14	Pipe - (15)	1.68	15	Cir	72.918	1257.38	1259.01	2.235	1257.72	1259.52	0.10	1259.52	End	Combination
15	Pipe - (16)	0.83	15	Cir	29.000	1259.01	1259.30	1.000	1259.52	1259.66	n/a	1259.66 j	14	Combination
16	Pipe - (11)	7.85	18	Cir	38.082	1256.56	1256.75	0.499	1257.76	1257.95	0.21	1258.16	End	Combination
17	Pipe - (10)	7.71	18	Cir	34.154	1256.75	1256.92	0.498	1258.16	1258.28	0.17	1258.45	16	DropCurb
18	Pipe - (22)	6.59	15	Cir	336.037	1256.91	1258.59	0.500	1258.45*	1261.43*	0.45	1261.88	17	Manhole

Project File: 225418 Storm Sewer 10yr.stm | Number of lines: 18 | Run Date: 3/2/2023

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	Structure - (11)	0.00	0.00	0.00	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	-0.17	0.00	0.00	0.00	2.0	Off
2	Null Structure	3.37	0.00	0.00	3.37	None	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	Structure - (12)	3.74	0.00	3.74	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.43	6.25	0.60	6.25	2.0	Off
4	New	1.69	0.08	1.78	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.28	1.90	0.44	1.90	2.0	Off
5	Structure - (13)	1.21	0.04	1.24	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.18	1.50	0.35	1.50	2.0	Off
6	Structure - (17)	0.48	0.00	0.48	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.07	1.00	0.23	1.00	2.0	Off
7	Structure - (18)	0.48	0.00	0.48	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.07	1.00	0.23	1.00	2.0	Off
8	Structure - (21)	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
9	Structure - (19)	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
10	Structure - (5)	1.10	0.02	1.12	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.16	1.40	0.33	1.40	2.0	Off
11	Structure - (7)	0.55	0.00	0.53	0.02	Comb	5.0	3.00	0.00	3.00	1.33	0.005	2.00	0.150	0.031	0.013	0.26	1.72	0.24	0.48	2.0	10
12	Structure - (6)	0.55	0.00	0.53	0.02	Comb	5.0	3.00	0.00	3.00	1.33	0.005	2.00	0.150	0.031	0.013	0.26	1.72	0.24	0.48	2.0	13
13	Structure - (4)	1.51	0.02	1.53	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.24	1.72	0.40	1.72	2.0	Off
14	Structure - (15)	1.09	0.00	1.00	0.08	Comb	5.0	3.00	0.00	3.00	1.33	0.011	2.00	0.150	0.031	0.013	0.29	1.92	0.28	0.73	2.0	4
15	Structure - (16)	0.83	0.00	0.79	0.04	Comb	5.0	3.00	0.00	3.00	1.33	0.011	2.00	0.150	0.031	0.013	0.26	1.73	0.25	0.53	2.0	5
16	Structure - (9)	0.21	0.00	0.21	0.00	Comb	5.0	3.00	0.00	3.00	1.33	0.005	2.00	0.150	0.031	0.013	0.18	1.19	0.17	0.00	2.0	Off
17	Structure - (24)	1.12	0.00	1.12	0.00	DrCrb	6.0	3.33	0.00	0.00	0.00	Sag	0.00	0.005	0.005	0.000	0.23	46.47	0.23	46.47	0.0	Off
18	Structure - (25)	6.59*	0.00	0.00	6.59	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off

Project File: 225418 Storm Sewer 10yr.stm | Number of lines: 18 | Run Date: 3/2/2023

NOTES: Inlet N-Values = 0.016; Intensity = 88.24 / (Inlet time + 15.50) ^ 0.83; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are throat.

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	24	7.78	1257.38	1258.21	0.83	1.23	6.30	0.39	1258.60	0.000	24.525	1257.57	1258.56	0.99**	1.55	5.01	0.39	1258.95	0.000	0.000	n/a	2.25	0.88
2	12	3.37	1257.57	1258.56	0.99	0.66	4.30	0.40	1258.97	0.000	94.578	1262.64	1263.43 j	0.78**	0.66	5.10	0.40	1263.83	0.000	0.000	n/a	1.00	0.40
3	18	5.41	1257.57	1258.56	0.99	1.10	4.37	0.38	1258.94	0.000	42.667	1257.86	1258.76 j	0.90**	1.10	4.91	0.38	1259.13	0.000	0.000	n/a	0.50	0.19
4	15	2.63	1257.86	1258.76	0.90	0.64	2.80	0.26	1259.02	0.000	22.329	1258.02	1258.67	0.65**	0.64	4.08	0.26	1258.93	0.000	0.000	n/a	0.50	n/a
5	15	1.21	1258.02	1258.67	0.65	0.38	1.88	0.16	1258.83	0.000	22.329	1258.19	1258.62 j	0.43**	0.38	3.20	0.16	1258.78	0.000	0.000	n/a	1.00	n/a
6	15	0.91	1258.08	1258.38	0.30*	0.23	3.97	0.13	1258.52	0.000	177.086	1259.91	1260.28	0.37**	0.31	2.95	0.13	1260.42	0.000	0.000	n/a	0.50	0.07
7	15	0.48	1259.76	1260.28	0.52	0.19	0.99	0.10	1260.38	0.000	36.015	1260.12	1260.39 j	0.27**	0.19	2.47	0.10	1260.49	0.000	0.000	n/a	1.00	0.10
8	18	2.76	1256.23	1256.84	0.61*	0.67	4.12	0.24	1257.08	0.000	164.665	1257.05	1257.68	0.63**	0.70	3.92	0.24	1257.92	0.000	0.000	n/a	1.00	n/a
9	18	2.91	1257.05	1257.68	0.63	0.70	4.13	0.25	1257.93	0.000	214.442	1258.13	1258.78	0.65**	0.73	3.98	0.25	1259.02	0.000	0.000	n/a	0.32	n/a
10	18	2.99	1258.13	1258.87	0.74*	0.87	3.45	0.18	1259.05	0.291	106.503	1258.44	1259.18	0.74	0.87	3.45	0.18	1259.36	0.290	0.291	0.309	1.50	0.28
11	15	1.05	1258.44	1259.46	1.02	0.34	0.98	0.15	1259.60	0.000	257.495	1259.73	1260.13 j	0.40**	0.34	3.07	0.15	1260.28	0.000	0.000	n/a	1.50	n/a
12	15	0.55	1259.73	1260.13	0.40	0.21	1.62	0.10	1260.23	0.000	35.000	1259.91	1260.20 j	0.29**	0.21	2.56	0.10	1260.30	0.000	0.000	n/a	1.00	0.10
13	15	1.51	1258.44	1259.46	1.02	0.44	1.42	0.18	1259.64	0.000	35.000	1258.87	1259.36	0.49**	0.44	3.42	0.18	1259.54	0.000	0.000	n/a	1.00	n/a
14	15	1.68	1257.38	1257.72	0.34*	0.27	6.25	0.19	1257.91	0.000	72.918	1259.01	1259.52	0.51**	0.48	3.53	0.19	1259.72	0.000	0.000	n/a	0.53	0.10
15	15	0.83	1259.01	1259.52	0.51	0.29	1.73	0.13	1259.65	0.000	29.000	1259.30	1259.66 j	0.36**	0.29	2.87	0.13	1259.78	0.000	0.000	n/a	1.00	n/a
16	18	7.85	1256.56	1257.76	1.20*	1.52	5.18	0.42	1258.18	0.499	38.082	1256.75	1257.95	1.20	1.51	5.18	0.42	1258.37	0.499	0.499	0.190	0.50	0.21
17	18	7.71	1256.75	1258.16	1.41	1.72	4.48	0.31	1258.47	0.397	34.154	1256.92	1258.28	1.36	1.69	4.58	0.33	1258.61	0.402	0.399	0.136	0.51	0.17
18	15	6.59	1256.91	1258.45	1.25	1.23	5.37	0.45	1258.90	0.888	336.037	1258.59	1261.43	1.25	1.23	5.37	0.45	1261.88	0.887	0.888	2.983	1.00	0.45

Project File: 225418 Storm Sewer 10yr.stm | Number of lines: 18 | Run Date: 3/2/2023

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	24.525	88.179	Comb	0.00	0.00	0.00	0.0	1257.38	0.77	1257.57	24	Cir	0.012	2.25	1264.04	Pipe - (12)
2	1	94.578	92.443	None	0.00	0.48	0.95	5.0	1257.57	5.36	1262.64	12	Cir	0.012	1.00	1265.00	Pipe - (21)
3	1	42.667	-97.216	Comb	0.00	0.69	0.78	6.0	1257.57	0.68	1257.86	18	Cir	0.012	0.50	1262.94	Pipe - (13)
4	3	22.329	8.668	Comb	0.00	0.56	0.58	15.0	1257.86	0.72	1258.02	15	Cir	0.012	0.50	1262.08	Pipe - (14)
5	4	22.329	0.000	Comb	0.00	0.19	0.95	7.0	1258.02	0.76	1258.19	15	Cir	0.012	1.00	1261.22	Pipe - (14)(2)
6	End	177.086	-89.967	Comb	0.00	0.07	0.95	5.0	1258.08	1.03	1259.91	15	Cir	0.012	0.50	1263.81	Pipe - (17)
7	6	36.015	-5.319	Comb	0.00	0.07	0.95	5.0	1259.76	1.00	1260.12	15	Cir	0.012	1.00	1263.87	Pipe - (18)
8	End	164.665	-89.409	MH	0.00	0.00	0.00	0.0	1256.23	0.50	1257.05	18	Cir	0.012	1.00	1262.16	Pipe - (19)
9	8	214.442	-91.211	MH	0.00	0.00	0.00	0.0	1257.05	0.50	1258.13	18	Cir	0.012	0.32	1262.45	Pipe - (20)
10	9	106.503	-15.935	Comb	0.00	0.16	0.95	5.0	1258.13	0.29	1258.44	18	Cir	0.012	1.50	1262.11	Pipe - (6)
11	10	257.495	15.074	Comb	0.00	0.08	0.95	5.0	1258.44	0.50	1259.73	15	Cir	0.012	1.50	1263.24	Pipe - (8)
12	11	35.000	91.110	Comb	0.00	0.08	0.95	5.0	1259.73	0.51	1259.91	15	Cir	0.012	1.00	1263.25	Pipe - (9)
13	10	35.000	93.842	Comb	0.00	0.22	0.95	5.0	1258.44	1.23	1258.87	15	Cir	0.012	1.00	1262.11	Pipe - (7)
14	End	72.918	-50.984	Comb	0.00	0.36	0.58	15.0	1257.38	2.24	1259.01	15	Cir	0.012	0.53	1262.39	Pipe - (15)
15	14	29.000	17.636	Comb	0.00	0.12	0.95	5.0	1259.01	1.00	1259.30	15	Cir	0.012	1.00	1262.73	Pipe - (16)
16	End	38.082	-79.452	Comb	0.00	0.03	0.95	5.0	1256.56	0.50	1256.75	18	Cir	0.012	0.50	1262.06	Pipe - (11)
17	16	34.154	4.242	DrCrb	0.00	0.86	0.25	15.0	1256.75	0.50	1256.92	18	Cir	0.012	0.51	1259.29	Pipe - (10)
18	17	336.037	-16.886	MH	9.42	0.00	0.00	0.0	1256.91	0.50	1258.59	15	Cir	0.012	1.00	1260.87	Pipe - (22)

Project File: 225418 Storm Sewer 100yr.stm | Number of lines: 18 | Date: 3/2/2023

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	Structure - (11)	Combination	1264.04	Rect	3.25	2.25	24	Cir	1257.57	12 18	Cir Cir	1257.57 1257.57
2	Null Structure	None	1265.00	n/a	n/a	n/a	12	Cir	1262.64			
3	Structure - (12)	Combination	1262.94	Rect	3.25	2.25	18	Cir	1257.86	15	Cir	1257.86
4	New	Combination	1262.08	Rect	3.25	2.25	15	Cir	1258.02	15	Cir	1258.02
5	Structure - (13)	Combination	1261.22	Rect	3.25	2.25	15	Cir	1258.19			
6	Structure - (17)	Combination	1263.81	Rect	3.25	2.25	15	Cir	1259.91	15	Cir	1259.76
7	Structure - (18)	Combination	1263.87	Rect	3.25	2.25	15	Cir	1260.12			
8	Structure - (21)	Manhole	1262.16	Cir	4.00	4.00	18	Cir	1257.05	18	Cir	1257.05
9	Structure - (19)	Manhole	1262.45	Cir	4.00	4.00	18	Cir	1258.13	18	Cir	1258.13
10	Structure - (5)	Combination	1262.11	Rect	3.25	2.25	18	Cir	1258.44	15 15	Cir Cir	1258.44 1258.44
11	Structure - (7)	Combination	1263.24	Rect	3.25	2.25	15	Cir	1259.73	15	Cir	1259.73
12	Structure - (6)	Combination	1263.25	Rect	3.25	2.25	15	Cir	1259.91			
13	Structure - (4)	Combination	1262.11	Rect	3.25	2.25	15	Cir	1258.87			
14	Structure - (15)	Combination	1262.39	Rect	3.25	2.25	15	Cir	1259.01	15	Cir	1259.01
15	Structure - (16)	Combination	1262.73	Rect	3.25	2.25	15	Cir	1259.30			
16	Structure - (9)	Combination	1262.06	Rect	3.25	2.25	18	Cir	1256.75	18	Cir	1256.75
17	Structure - (24)	DropCurb	1259.29	Rect	3.25	3.25	18	Cir	1256.92	15	Cir	1256.91
18	Structure - (25)	Manhole	1260.87	Cir	4.00	4.00	15	Cir	1258.59			

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (12)	10.87	24	Cir	24.525	1257.38	1257.57	0.774	1258.66	1258.75	n/a	1258.75 j	End	Combination
2	Pipe - (21)	4.48	12	Cir	94.578	1257.57	1262.64	5.361	1258.75	1263.53	n/a	1263.53 j	1	None
3	Pipe - (13)	7.60	18	Cir	42.667	1257.57	1257.86	0.680	1258.75	1258.93	n/a	1258.93 j	1	Combination
4	Pipe - (14)	3.69	15	Cir	22.329	1257.86	1258.02	0.717	1258.93	1258.80	n/a	1258.80	3	Combination
5	Pipe - (14)(2)	1.66	15	Cir	22.329	1258.02	1258.19	0.761	1258.80	1258.70	n/a	1258.70	4	Combination
6	Pipe - (17)	1.26	15	Cir	177.086	1258.08	1259.91	1.033	1258.44	1260.35	0.08	1260.35	End	Combination
7	Pipe - (18)	0.65	15	Cir	36.015	1259.76	1260.12	1.000	1260.35	1260.44	n/a	1260.44 j	6	Combination
8	Pipe - (19)	4.11	18	Cir	164.665	1256.23	1257.05	0.498	1256.99	1257.83	0.31	1257.83	End	Manhole
9	Pipe - (20)	4.27	18	Cir	214.442	1257.05	1258.13	0.504	1257.83	1258.92	0.10	1258.92	8	Manhole
10	Pipe - (6)	4.35	18	Cir	106.503	1258.13	1258.44	0.291	1259.06	1259.37	0.33	1259.70	9	Combination
11	Pipe - (8)	1.45	15	Cir	257.495	1258.44	1259.73	0.501	1259.70	1260.21	n/a	1260.47 j	10	Combination
12	Pipe - (9)	0.75	15	Cir	35.000	1259.73	1259.91	0.514	1260.47	1260.25	n/a	1260.25	11	Combination
13	Pipe - (7)	2.06	15	Cir	35.000	1258.44	1258.87	1.229	1259.70	1259.70	0.09	1259.79	10	Combination
14	Pipe - (15)	2.36	15	Cir	72.918	1257.38	1259.01	2.235	1257.78	1259.62	0.13	1259.62	End	Combination
15	Pipe - (16)	1.12	15	Cir	29.000	1259.01	1259.30	1.000	1259.62	1259.72	n/a	1259.72 j	14	Combination
16	Pipe - (11)	11.19	18	Cir	38.082	1256.56	1256.75	0.499	1258.06*	1258.43*	0.31	1258.74	End	Combination
17	Pipe - (10)	10.99	18	Cir	34.154	1256.75	1256.92	0.498	1258.74*	1259.06*	0.31	1259.37	16	DropCurb
18	Pipe - (22)	9.42	15	Cir	336.037	1256.91	1258.59	0.500	1259.37*	1265.46*	0.92	1266.38	17	Manhole

Project File: 225418 Storm Sewer 100yr.stm

Number of lines: 18

Run Date: 3/2/2023

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	Structure - (11)	0.00	0.00	0.00	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	-0.17	0.00	0.00	0.00	2.0	Off
2	Null Structure	4.48	0.00	0.00	4.48	None	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
3	Structure - (12)	5.11	0.00	5.11	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.52	8.96	0.68	8.96	2.0	Off
4	New	2.37	0.19	2.56	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.35	3.62	0.52	3.62	2.0	Off
5	Structure - (13)	1.66	0.09	1.75	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.27	1.88	0.44	1.88	2.0	Off
6	Structure - (17)	0.65	0.00	0.65	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.11	1.19	0.28	1.19	2.0	Off
7	Structure - (18)	0.65	0.00	0.65	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.11	1.19	0.28	1.19	2.0	Off
8	Structure - (21)	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
9	Structure - (19)	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
10	Structure - (5)	1.49	0.05	1.54	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.24	1.73	0.40	1.73	2.0	Off
11	Structure - (7)	0.75	0.00	0.70	0.05	Comb	5.0	3.00	0.00	3.00	1.33	0.005	2.00	0.150	0.031	0.013	0.29	1.93	0.27	0.70	2.0	10
12	Structure - (6)	0.75	0.00	0.70	0.05	Comb	5.0	3.00	0.00	3.00	1.33	0.005	2.00	0.150	0.031	0.013	0.29	1.93	0.27	0.70	2.0	13
13	Structure - (4)	2.06	0.05	2.11	0.00	Comb	5.0	3.00	2.66	3.00	1.33	Sag	2.00	0.150	0.031	0.000	0.32	2.50	0.48	2.50	2.0	Off
14	Structure - (15)	1.52	0.00	1.33	0.19	Comb	5.0	3.00	0.00	3.00	1.33	0.011	2.00	0.150	0.031	0.013	0.33	2.84	0.32	1.00	2.0	4
15	Structure - (16)	1.12	0.00	1.03	0.09	Comb	5.0	3.00	0.00	3.00	1.33	0.011	2.00	0.150	0.031	0.013	0.29	1.94	0.28	0.76	2.0	5
16	Structure - (9)	0.28	0.00	0.28	0.00	Comb	5.0	3.00	0.00	3.00	1.33	0.005	2.00	0.150	0.031	0.013	0.20	1.34	0.17	0.00	2.0	Off
17	Structure - (24)	1.57	0.00	1.57	0.00	DrCrb	6.0	3.33	0.00	0.00	0.00	Sag	0.00	0.005	0.005	0.000	0.29	58.20	0.29	58.20	0.0	Off
18	Structure - (25)	9.42*	0.00	0.00	9.42	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off

Project File: 225418 Storm Sewer 100yr.stm | Number of lines: 18 | Run Date: 3/2/2023

NOTES: Inlet N-Values = 0.016; Intensity = 127.16 / (Inlet time + 17.80) ^ 0.82; Return period = 100 Yrs. ; * Indicates Known Q added. All curb inlets are throat.

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	24	10.87	1257.38	1258.66	1.28	1.93	5.12	0.49	1259.15	0.000	24.525	1257.57	1258.75 j	1.18**	1.93	5.63	0.49	1259.24	0.000	0.000	n/a	2.25	n/a
2	12	4.48	1257.57	1258.75	1.00	0.74	5.71	0.51	1259.26	1.351	94.578	1262.64	1263.53 j	0.88**	0.74	6.10	0.58	1264.10	1.208	1.280	n/a	1.00	n/a
3	18	7.60	1257.57	1258.75	1.18	1.34	5.09	0.50	1259.25	0.000	42.667	1257.86	1258.93 j	1.07**	1.34	5.65	0.50	1259.42	0.000	0.000	n/a	0.50	0.25
4	15	3.69	1257.86	1258.93	1.07	0.80	3.31	0.33	1259.26	0.000	22.329	1258.02	1258.80	0.78**	0.80	4.61	0.33	1259.13	0.000	0.000	n/a	0.50	n/a
5	15	1.66	1258.02	1258.80	0.78	0.47	2.07	0.19	1258.99	0.000	22.329	1258.19	1258.70	0.51**	0.47	3.52	0.19	1258.89	0.000	0.000	n/a	1.00	n/a
6	15	1.26	1258.08	1258.44	0.36	0.29	4.30	0.16	1258.60	0.000	177.086	1259.91	1260.35	0.44**	0.39	3.24	0.16	1260.52	0.000	0.000	n/a	0.50	0.08
7	15	0.65	1259.76	1260.35	0.59	0.24	1.14	0.11	1260.47	0.000	36.015	1260.12	1260.44 j	0.32**	0.24	2.69	0.11	1260.55	0.000	0.000	n/a	1.00	0.11
8	18	4.11	1256.23	1256.99	0.76*	0.90	4.57	0.31	1257.30	0.000	164.665	1257.05	1257.83	0.78**	0.92	4.46	0.31	1258.13	0.000	0.000	n/a	1.00	0.31
9	18	4.27	1257.05	1257.83	0.78*	0.92	4.63	0.32	1258.14	0.000	214.442	1258.13	1258.92	0.79**	0.95	4.51	0.32	1259.24	0.000	0.000	n/a	0.32	0.10
10	18	4.35	1258.13	1259.06	0.93*	1.16	3.77	0.22	1259.28	0.291	106.503	1258.44	1259.37	0.93	1.15	3.77	0.22	1259.59	0.291	0.291	0.310	1.50	0.33
11	15	1.45	1258.44	1259.70	1.25	0.43	1.18	0.02	1259.73	0.043	257.495	1259.73	1260.21 j	0.48**	0.43	3.34	0.17	1260.38	0.442	0.242	0.624	1.50	0.26
12	15	0.75	1259.73	1260.47	0.74	0.27	0.99	0.12	1260.59	0.000	35.000	1259.91	1260.25	0.34**	0.27	2.79	0.12	1260.37	0.000	0.000	n/a	1.00	n/a
13	15	2.06	1258.44	1259.70	1.25	1.23	1.67	0.04	1259.75	0.086	35.000	1258.87	1259.70	0.83	0.86	2.38	0.09	1259.79	0.142	0.114	0.040	1.00	0.09
14	15	2.36	1257.38	1257.78	0.40*	0.34	6.88	0.24	1258.02	0.000	72.918	1259.01	1259.62	0.61**	0.60	3.93	0.24	1259.86	0.000	0.000	n/a	0.53	0.13
15	15	1.12	1259.01	1259.62	0.61	0.36	1.87	0.15	1259.78	0.000	29.000	1259.30	1259.72 j	0.42**	0.36	3.13	0.15	1259.87	0.000	0.000	n/a	1.00	0.15
16	18	11.19	1256.56	1258.06	1.50*	1.77	6.34	0.62	1258.68	0.969	38.082	1256.75	1258.43	1.50	1.77	6.33	0.62	1259.05	0.968	0.968	0.369	0.50	0.31
17	18	10.99	1256.75	1258.74	1.50	1.77	6.22	0.60	1259.34	0.934	34.154	1256.92	1259.06	1.50	1.77	6.22	0.60	1259.66	0.933	0.933	0.319	0.51	0.31
18	15	9.42	1256.91	1259.37	1.25	1.23	7.68	0.92	1260.28	1.814	336.037	1258.59	1265.46	1.25	1.23	7.68	0.92	1266.38	1.813	1.814	6.095	1.00	0.92

Project File: 225418 Storm Sewer 100yr.stm | Number of lines: 18 | Run Date: 3/2/2023

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

APPENDIX D

Hydraflow Table of Contents

225418 Hydrographs.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 03 / 2 / 2023

25 - Year

Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	6.188	8.195	11.19	13.66	16.25	1
2	SCS Runoff	------	-------	-------	-------	15.02	19.73	26.85	32.71	38.86	2
3	SCS Runoff	------	-------	-------	-------	5.535	7.321	9.990	12.19	14.50	3
4	SCS Runoff	------	-------	-------	-------	6.993	9.261	12.65	15.43	18.36	4
5	SCS Runoff	------	-------	-------	-------	0.253	0.335	0.458	0.558	0.664	5
6	Combine	3, 4,	-------	-------	-------	12.53	16.54	22.52	27.44	32.60	SE Exit
8	SCS Runoff	------	-------	-------	-------	2.418	3.023	3.897	4.599	5.326	10
9	SCS Runoff	------	-------	-------	-------	5.746	7.600	10.37	12.65	15.05	20
10	SCS Runoff	------	-------	-------	-------	1.536	1.926	2.491	2.945	3.415	21
11	SCS Runoff	------	-------	-------	-------	1.821	2.136	2.587	2.948	3.322	22
12	SCS Runoff	------	-------	-------	-------	6.457	8.532	11.63	14.17	16.84	23
13	SCS Runoff	------	-------	-------	-------	0.411	0.482	0.584	0.666	0.750	24
14	SCS Runoff	------	-------	-------	-------	0.411	0.482	0.584	0.666	0.750	25
15	SCS Runoff	------	-------	-------	-------	1.978	2.620	3.578	4.366	5.195	30
16	SCS Runoff	------	-------	-------	-------	0.059	0.069	0.083	0.095	0.107	31
17	SCS Runoff	------	-------	-------	-------	0.117	0.138	0.167	0.190	0.214	32
18	SCS Runoff	------	-------	-------	-------	0.294	0.345	0.417	0.476	0.536	33
19	SCS Runoff	------	-------	-------	-------	5.912	7.829	10.69	13.05	15.52	40
20	SCS Runoff	------	-------	-------	-------	0.470	0.551	0.668	0.761	0.857	41
21	SCS Runoff	------	-------	-------	-------	0.470	0.551	0.668	0.761	0.857	42
22	SCS Runoff	------	-------	-------	-------	1.292	1.516	1.836	2.092	2.357	43
23	SCS Runoff	------	-------	-------	-------	0.940	1.103	1.335	1.522	1.714	44
24	SCS Runoff	------	-------	-------	-------	0.881	1.034	1.252	1.427	1.607	50
25	SCS Runoff	------	-------	-------	-------	2.820	3.308	4.006	4.565	5.143	60
26	SCS Runoff	------	-------	-------	-------	3.739	4.466	5.500	6.324	7.174	61
27	SCS Runoff	------	-------	-------	-------	1.947	2.408	3.070	3.600	4.147	62
28	SCS Runoff	------	-------	-------	-------	0.954	1.119	1.356	1.545	1.741	63
29	SCS Runoff	------	-------	-------	-------	1.252	1.548	1.973	2.314	2.666	64
30	SCS Runoff	------	-------	-------	-------	0.705	0.827	1.001	1.141	1.286	65
32	Combine	9, 10, 11, 12, 13, 14,	-------	-------	-------	14.98	19.47	26.14	31.62	37.37	Area 2 Into Pond
33	Combine	15, 16, 17, 18,	-------	-------	-------	2.207	2.887	3.901	4.736	5.614	Area 3 Sub
34	Combine	19, 20, 21, 22, 23,	-------	-------	-------	7.915	10.16	13.52	16.27	19.17	Area 4 Sub
35	Combine	25, 26, 27, 28, 29, 30,	-------	-------	-------	10.70	12.82	15.85	18.28	20.79	Into Basin

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
36	Reservoir	35	-------	-------	-------	3.045	4.049	5.131	6.101	9.419	ADS Out
37	Combine	33, 36	-------	-------	-------	4.889	6.590	8.642	10.21	14.37	Area 3 + ADS Out
38	Combine	34, 37	-------	-------	-------	12.50	16.10	21.75	26.07	31.65	SE Exit

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	6.188	2	722	17,542	------	------	------	1
2	SCS Runoff	15.02	2	720	34,379	------	------	------	2
3	SCS Runoff	5.535	2	722	14,485	------	------	------	3
4	SCS Runoff	6.993	2	722	19,825	------	------	------	4
5	SCS Runoff	0.253	2	722	717	------	------	------	5
6	Combine	12.53	2	722	34,309	3, 4,	------	------	SE Exit
8	SCS Runoff	2.418	2	720	6,287	------	------	------	10
9	SCS Runoff	5.746	2	722	15,036	------	------	------	20
10	SCS Runoff	1.536	2	716	3,121	------	------	------	21
11	SCS Runoff	1.821	2	716	4,319	------	------	------	22
12	SCS Runoff	6.457	2	722	18,284	------	------	------	23
13	SCS Runoff	0.411	2	716	975	------	------	------	24
14	SCS Runoff	0.411	2	716	975	------	------	------	25
15	SCS Runoff	1.978	2	722	5,608	------	------	------	30
16	SCS Runoff	0.059	2	716	139	------	------	------	31
17	SCS Runoff	0.117	2	716	279	------	------	------	32
18	SCS Runoff	0.294	2	716	697	------	------	------	33
19	SCS Runoff	5.912	2	722	16,760	------	------	------	40
20	SCS Runoff	0.470	2	716	1,115	------	------	------	41
21	SCS Runoff	0.470	2	716	1,115	------	------	------	42
22	SCS Runoff	1.292	2	716	3,065	------	------	------	43
23	SCS Runoff	0.940	2	716	2,229	------	------	------	44
24	SCS Runoff	0.881	2	716	2,090	------	------	------	50
25	SCS Runoff	2.820	2	716	6,688	------	------	------	60
26	SCS Runoff	3.739	2	716	8,095	------	------	------	61
27	SCS Runoff	1.947	2	722	5,496	------	------	------	62
28	SCS Runoff	0.954	2	718	2,527	------	------	------	63
29	SCS Runoff	1.252	2	722	3,533	------	------	------	64
30	SCS Runoff	0.705	2	716	1,672	------	------	------	65
32	Combine	14.98	2	720	42,712	9, 10, 11, 12, 13, 14,	------	------	Area 2 Into Pond
33	Combine	2.207	2	720	6,723	15, 16, 17, 18,	------	------	Area 3 Sub
34	Combine	7.915	2	718	24,284	19, 20, 21, 22, 23,	------	------	Area 4 Sub
35	Combine	10.70	2	718	28,011	25, 26, 27, 28, 29, 30,	------	------	Into Basin

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

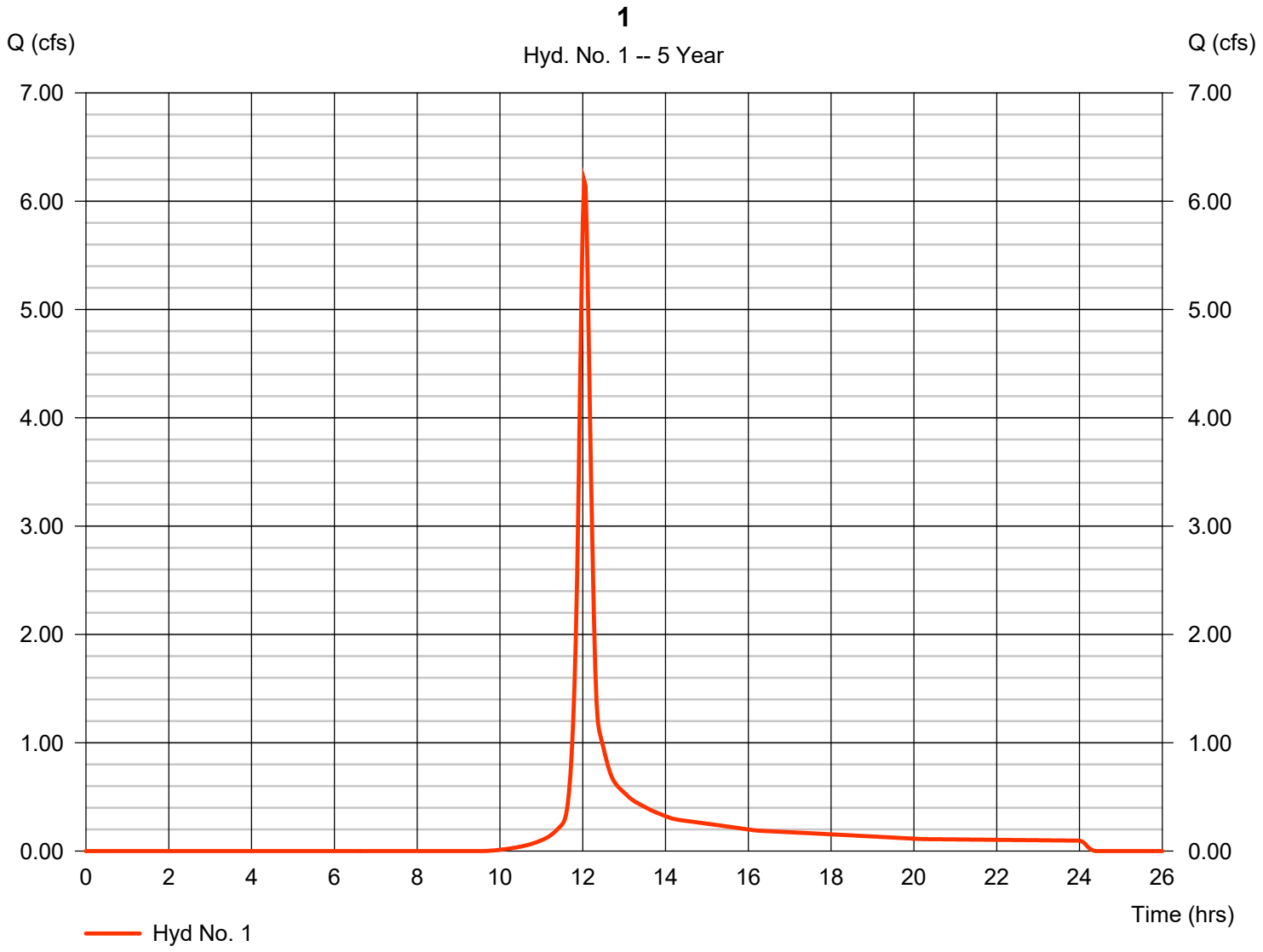
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
36	Reservoir	3.045	2	730	28,001	35	1255.25	8,775	ADS Out
37	Combine	4.889	2	724	34,724	33, 36	------	------	Area 3 + ADS Out
38	Combine	12.50	2	720	59,008	34, 37	------	------	SE Exit

Hydrograph Report

Hyd. No. 1

1

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.188 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	17,542 cuft
Drainage area	=	2.690 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	14.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

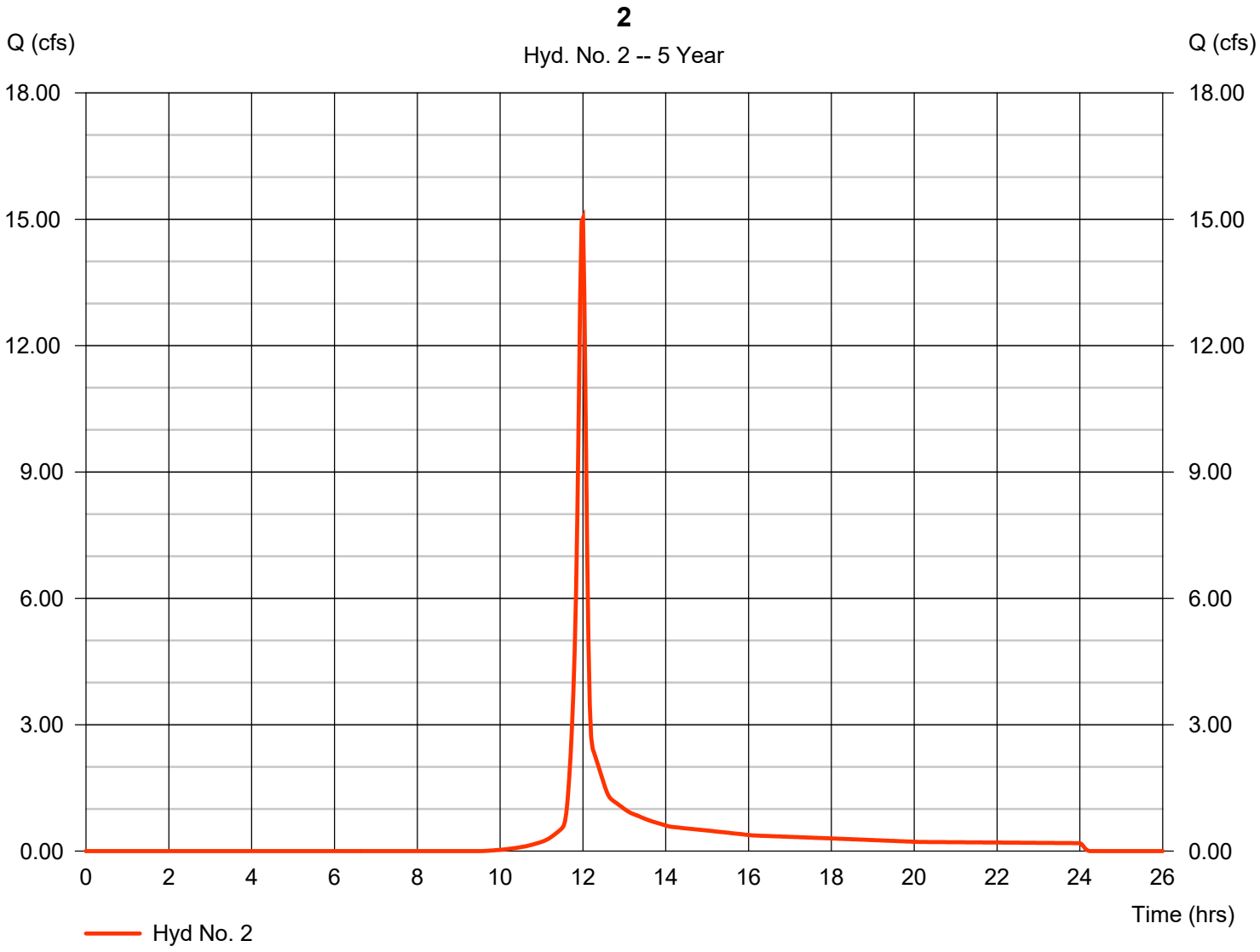


Hydrograph Report

Hyd. No. 2

2

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.02 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	34,379 cuft
Drainage area	=	5.140 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

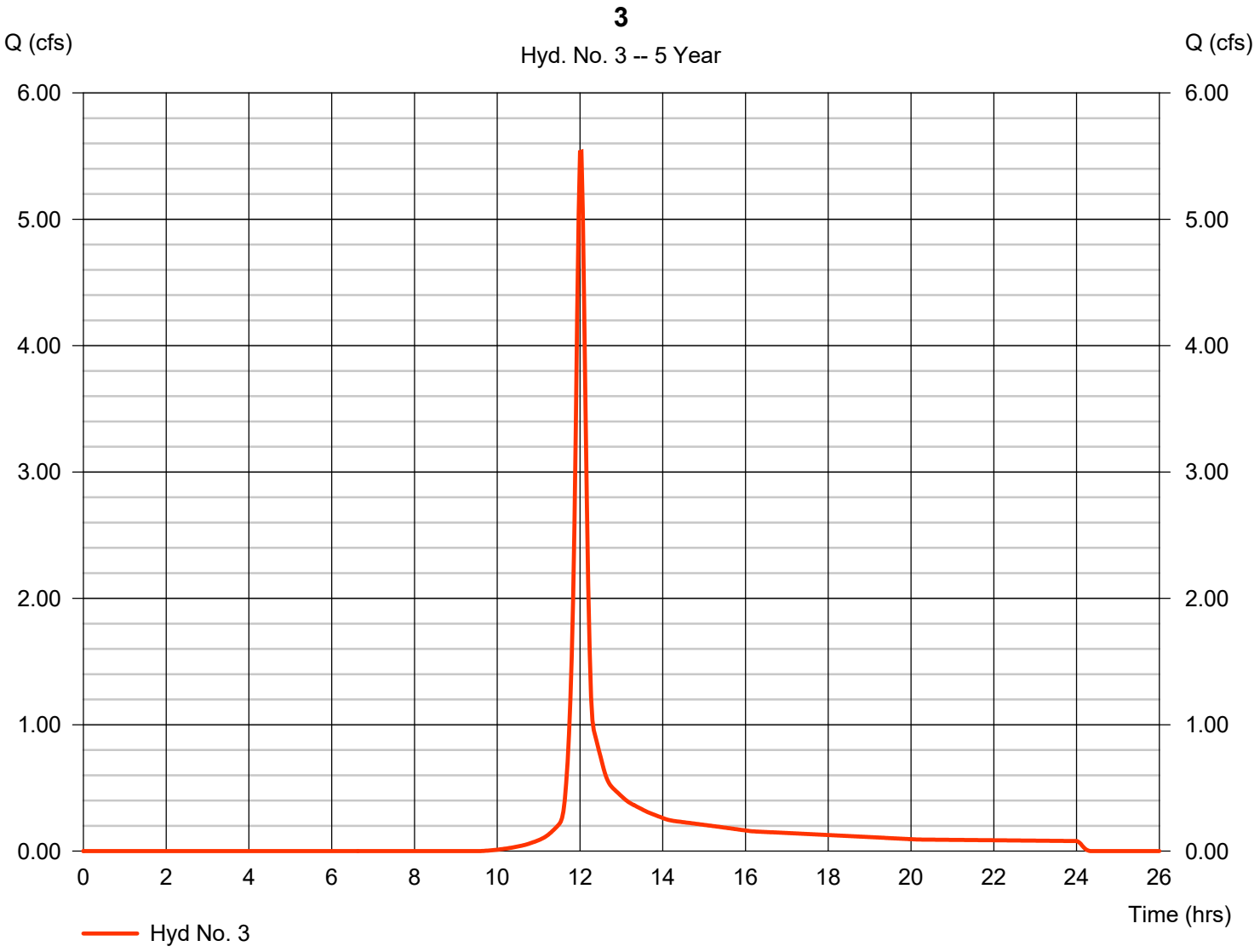


Hydrograph Report

Hyd. No. 3

3

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.535 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	14,485 cuft
Drainage area	=	2.100 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	13.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

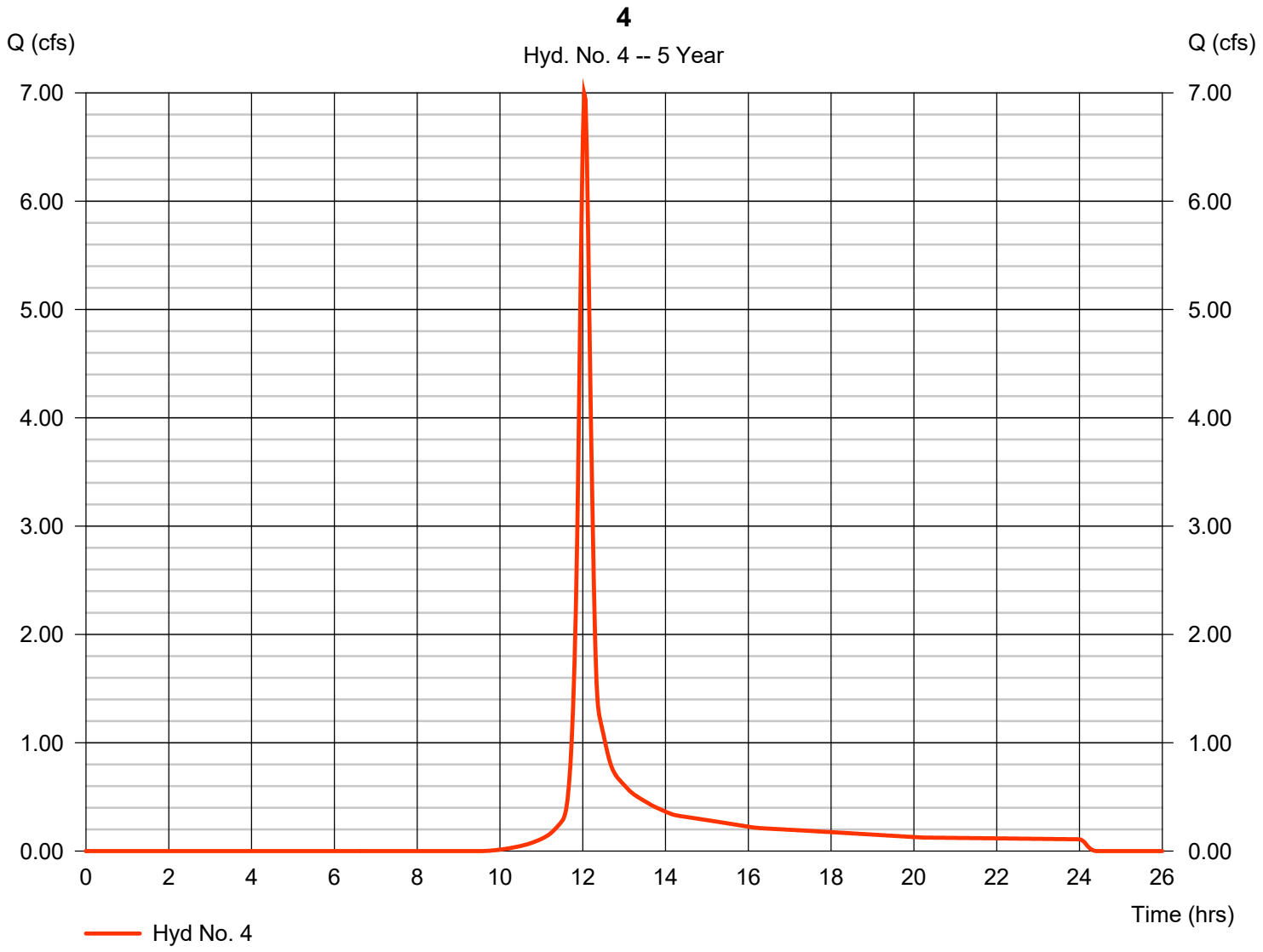


Hydrograph Report

Hyd. No. 4

4

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.993 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	19,825 cuft
Drainage area	=	3.040 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

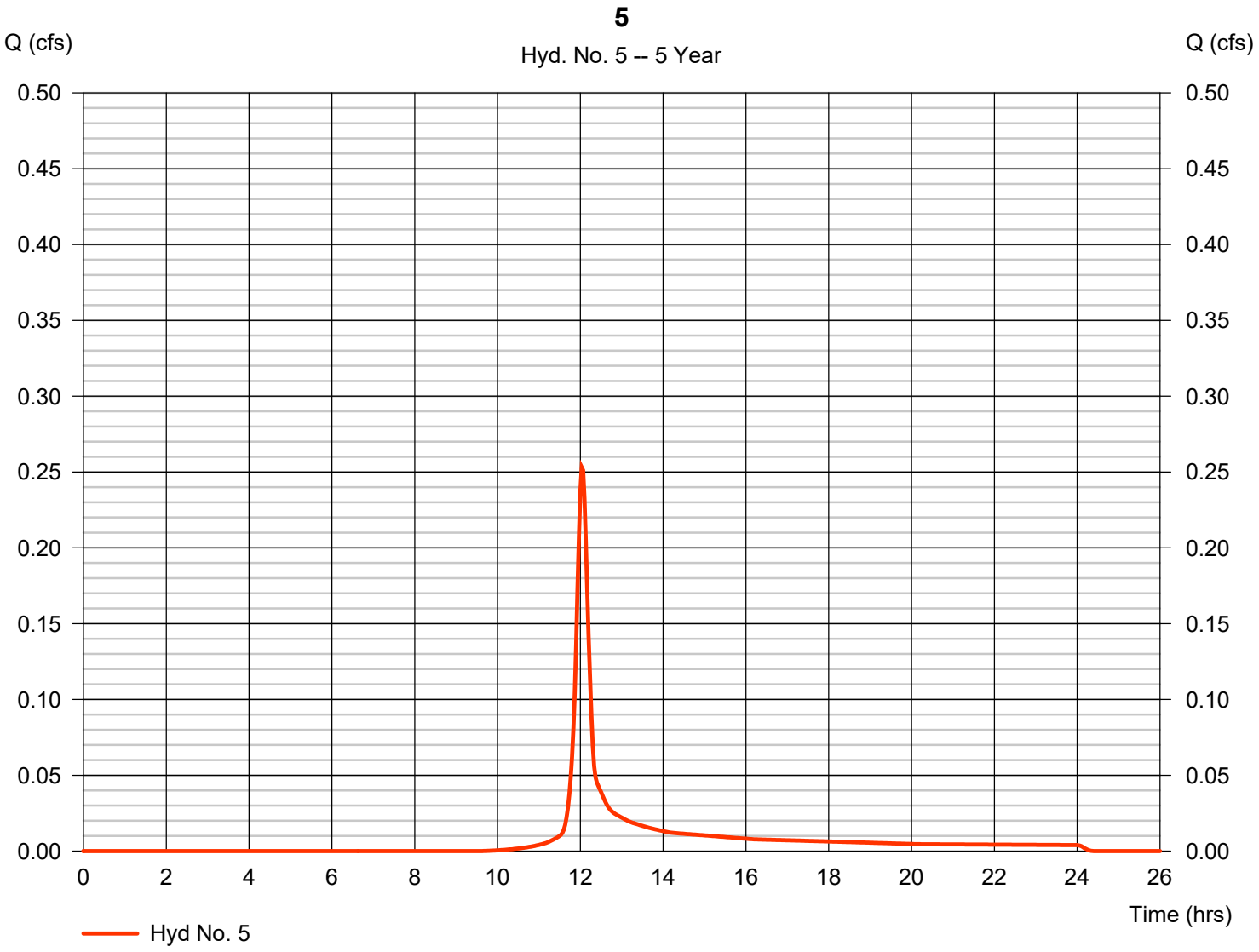


Hydrograph Report

Hyd. No. 5

5

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.253 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	717 cuft
Drainage area	=	0.110 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

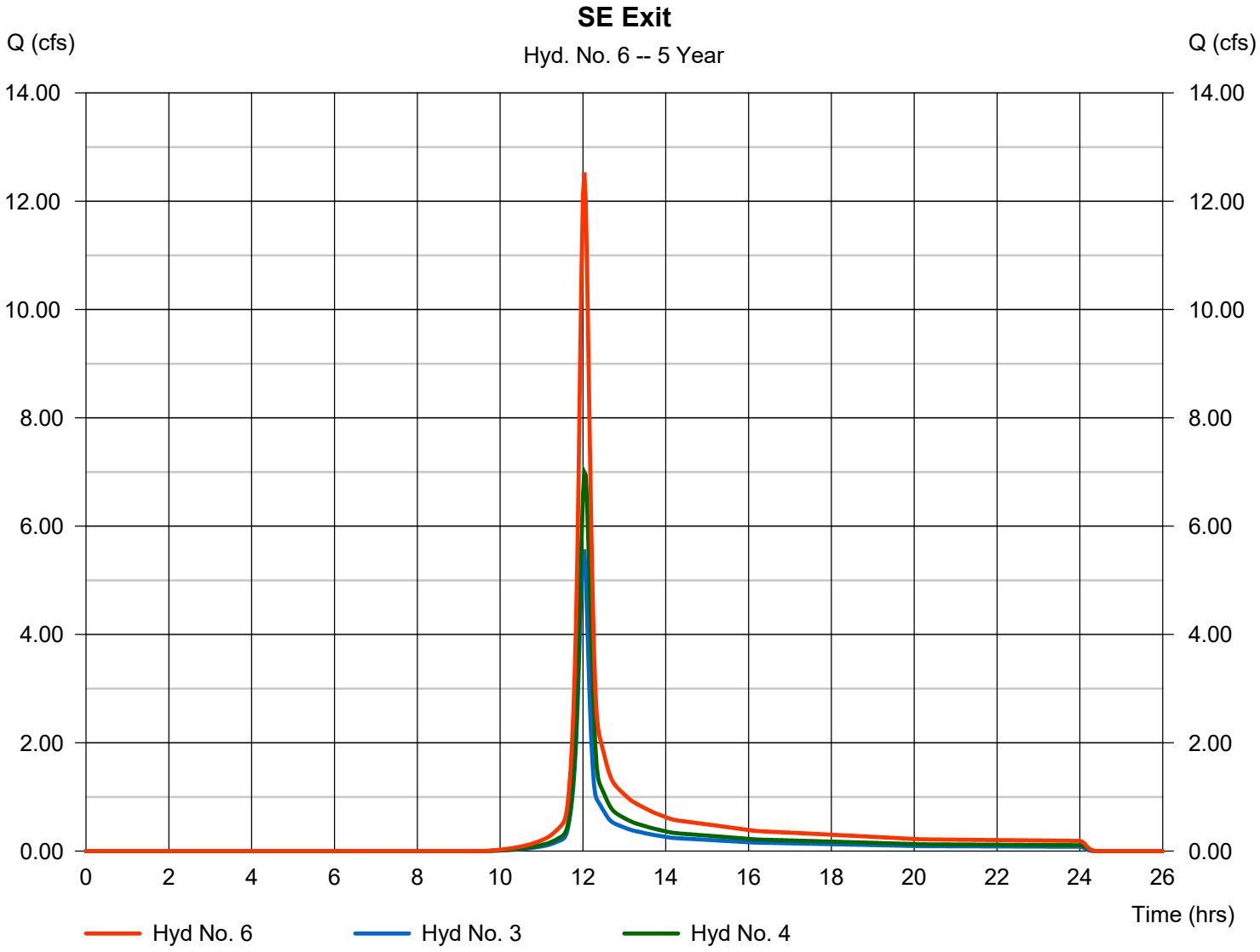


Hydrograph Report

Hyd. No. 6

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	12.53 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	34,309 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	5.140 ac

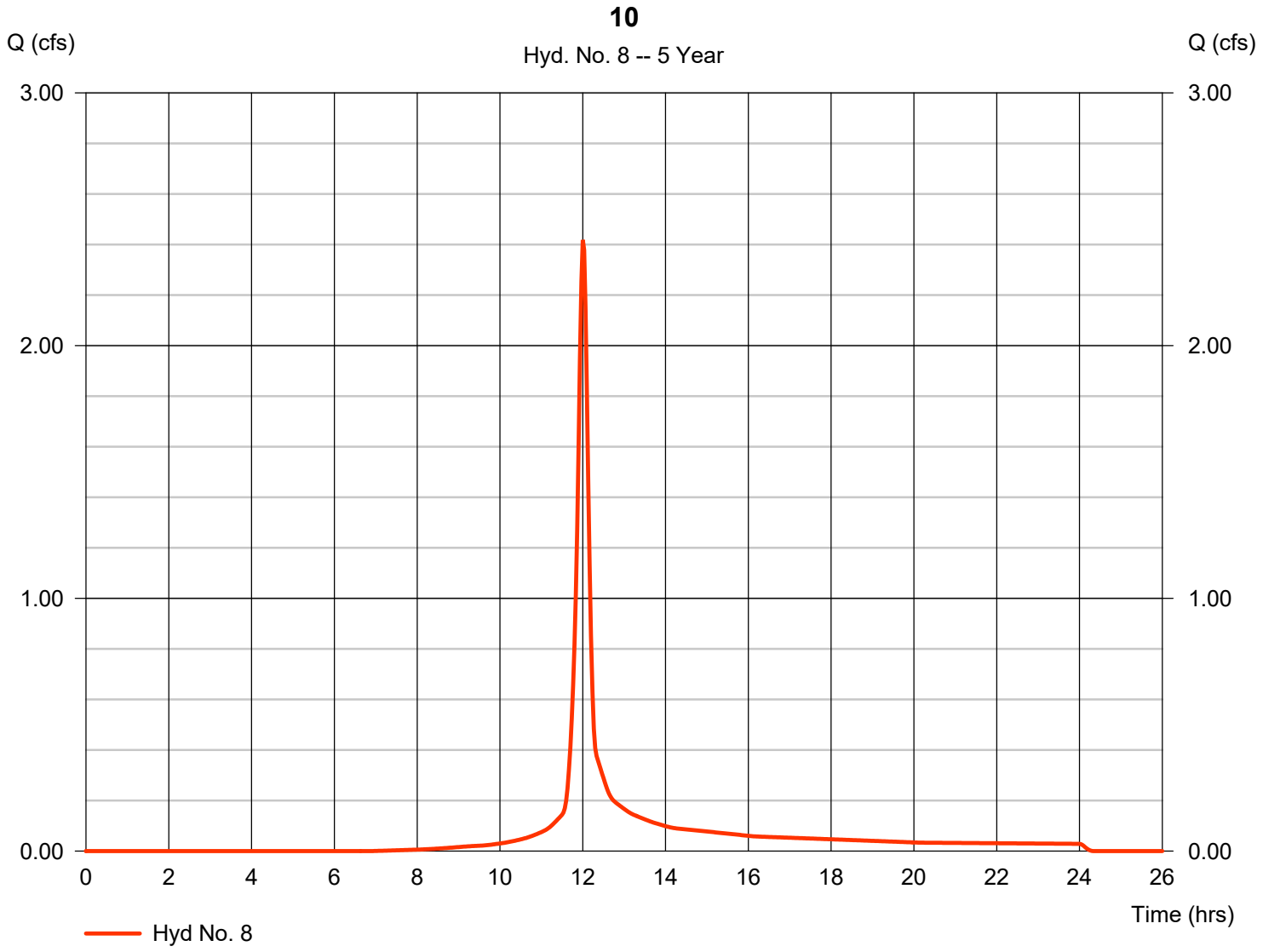


Hydrograph Report

Hyd. No. 8

10

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.418 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	6,287 cuft
Drainage area	=	0.650 ac	Curve number	=	83.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

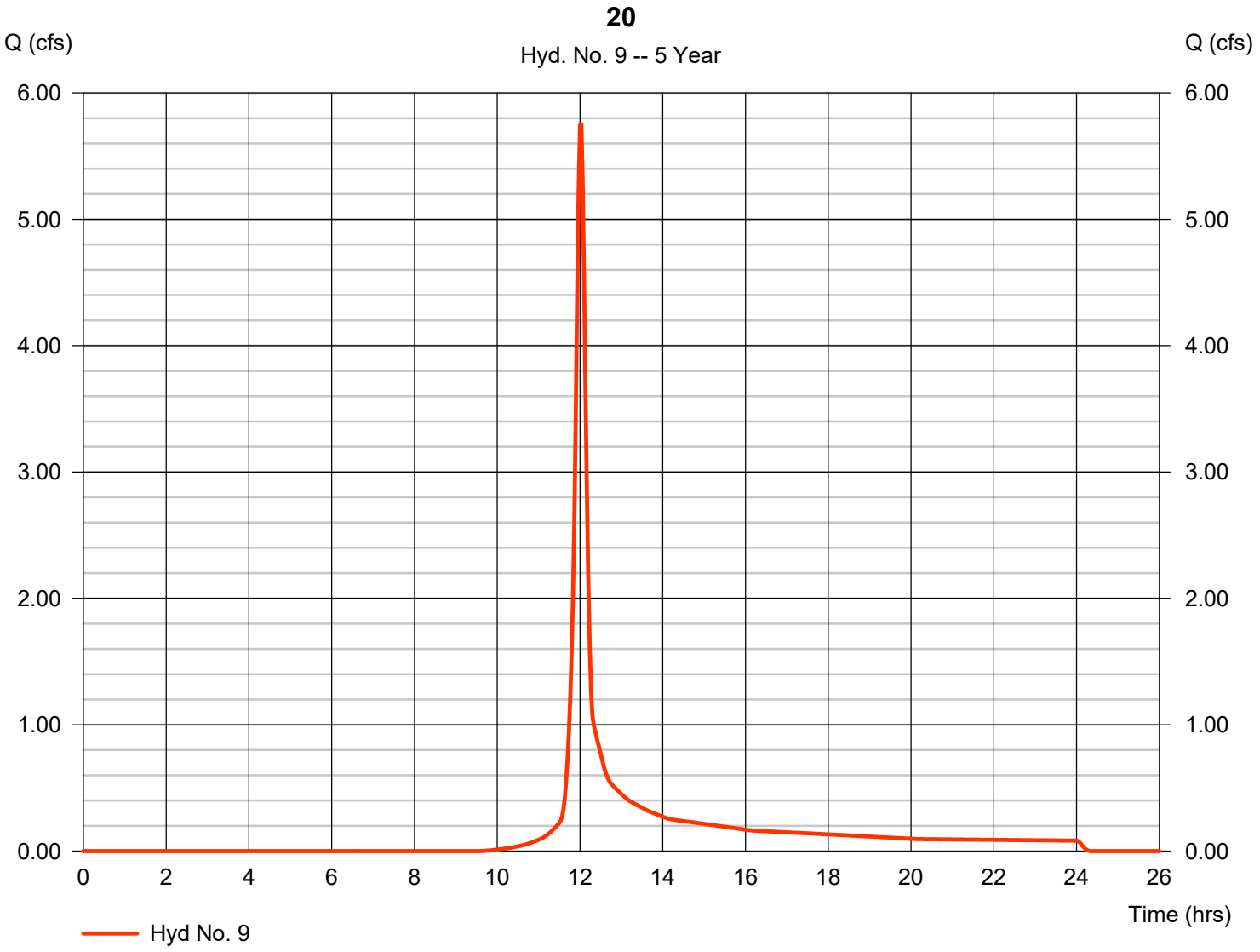


Hydrograph Report

Hyd. No. 9

20

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.746 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	15,036 cuft
Drainage area	=	2.180 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	12.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

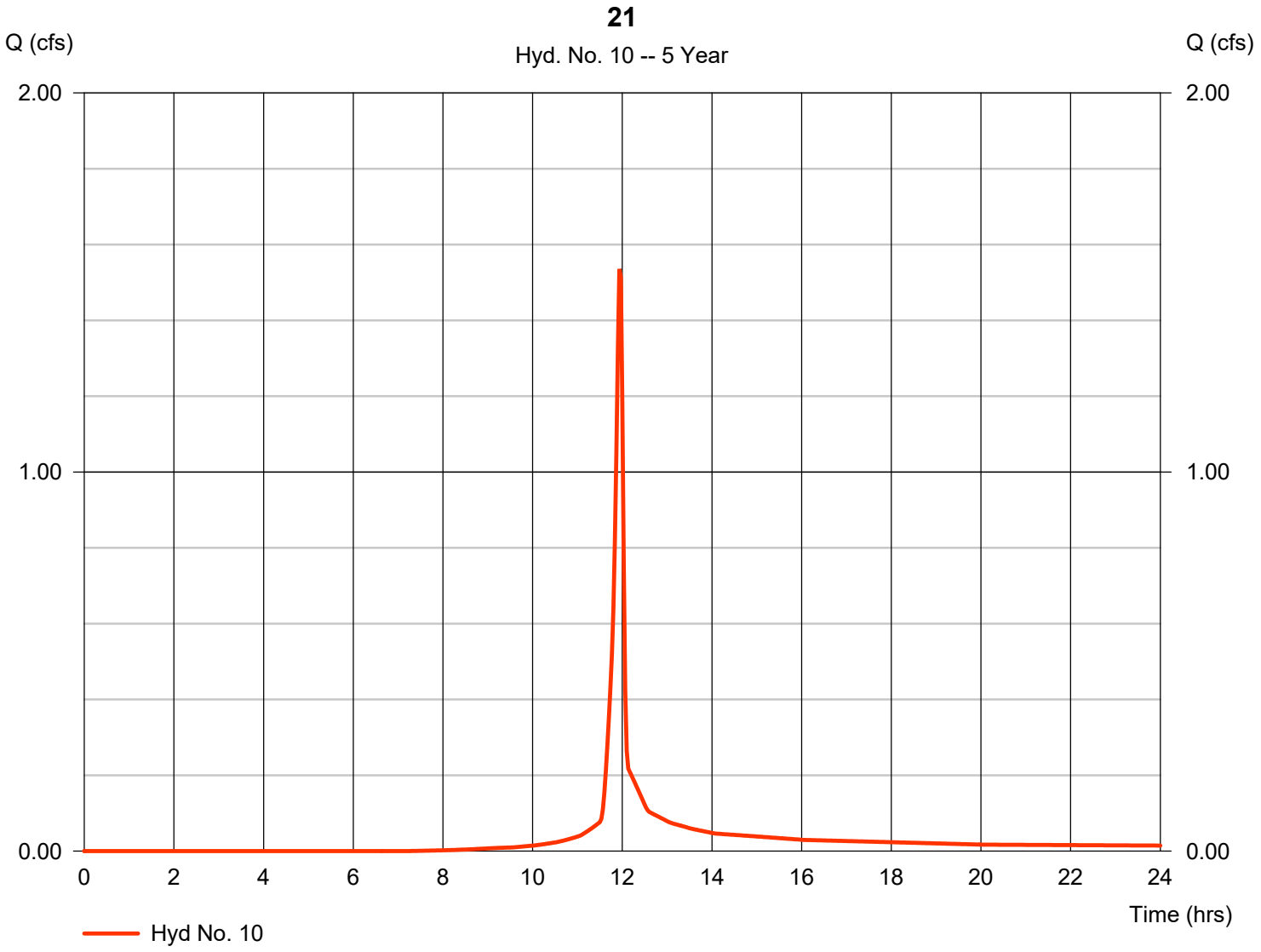


Hydrograph Report

Hyd. No. 10

21

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.536 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,121 cuft
Drainage area	=	0.370 ac	Curve number	=	81.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

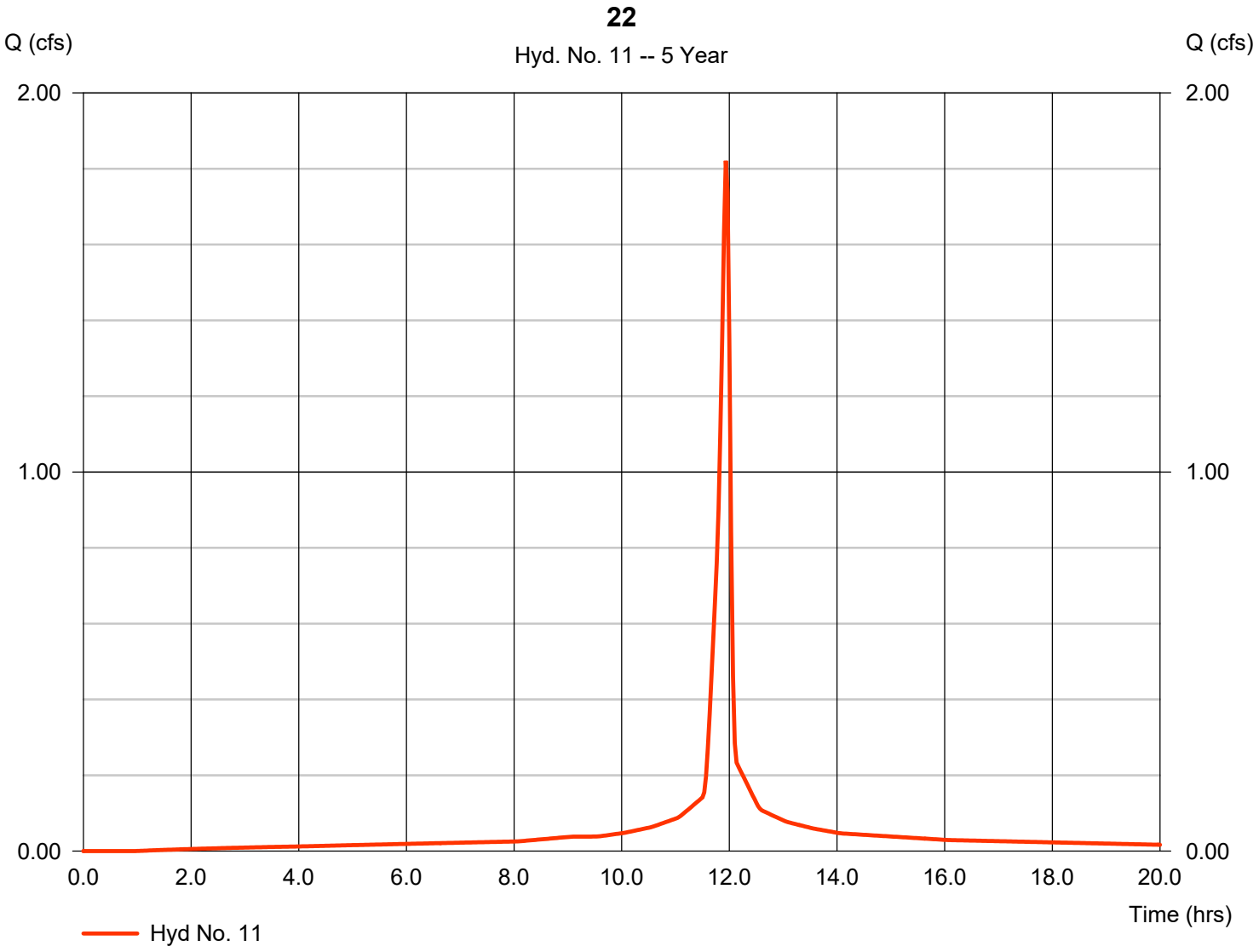


Hydrograph Report

Hyd. No. 11

22

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.821 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	4,319 cuft
Drainage area	=	0.310 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

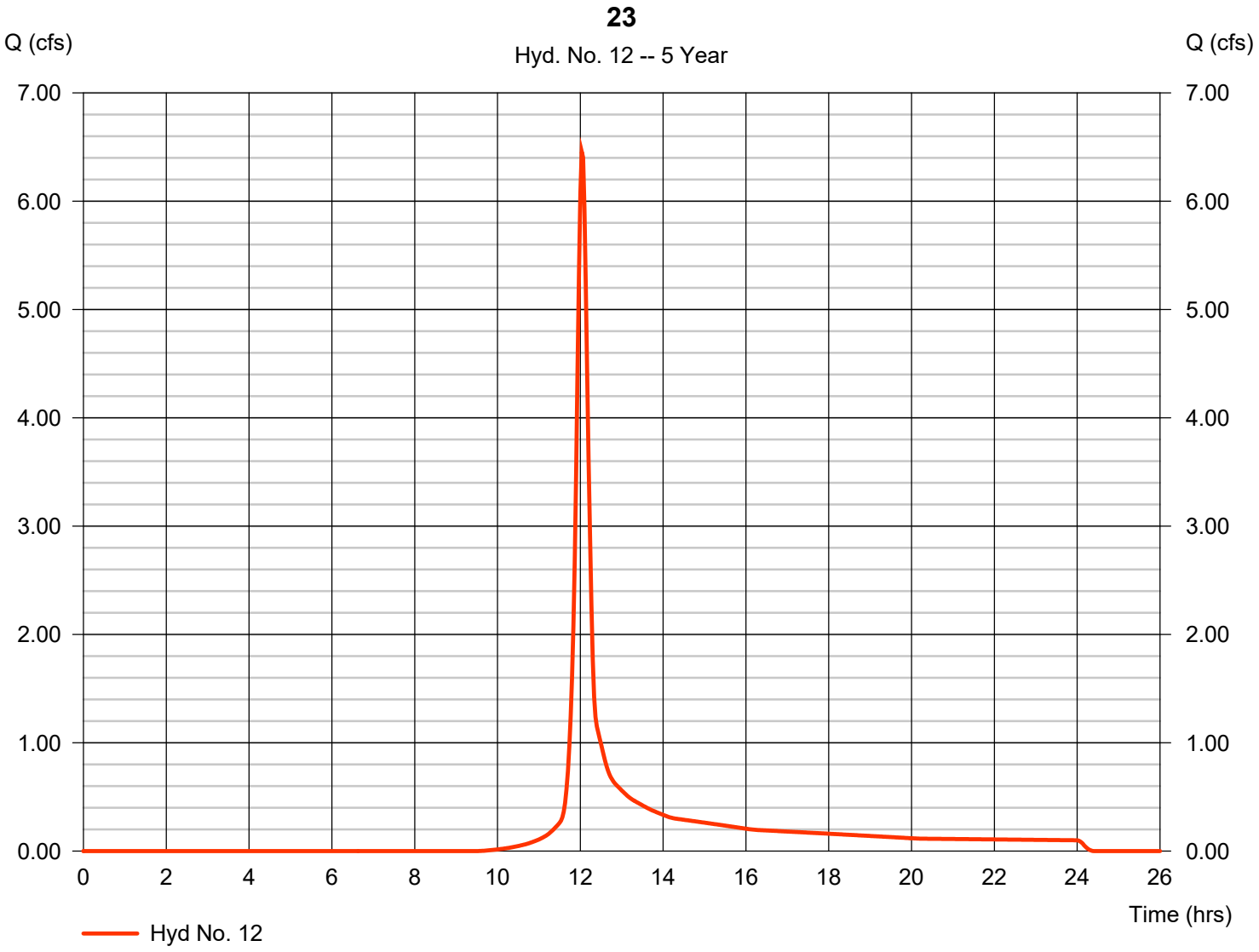


Hydrograph Report

Hyd. No. 12

23

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.457 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	18,284 cuft
Drainage area	=	2.770 ac	Curve number	=	74.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

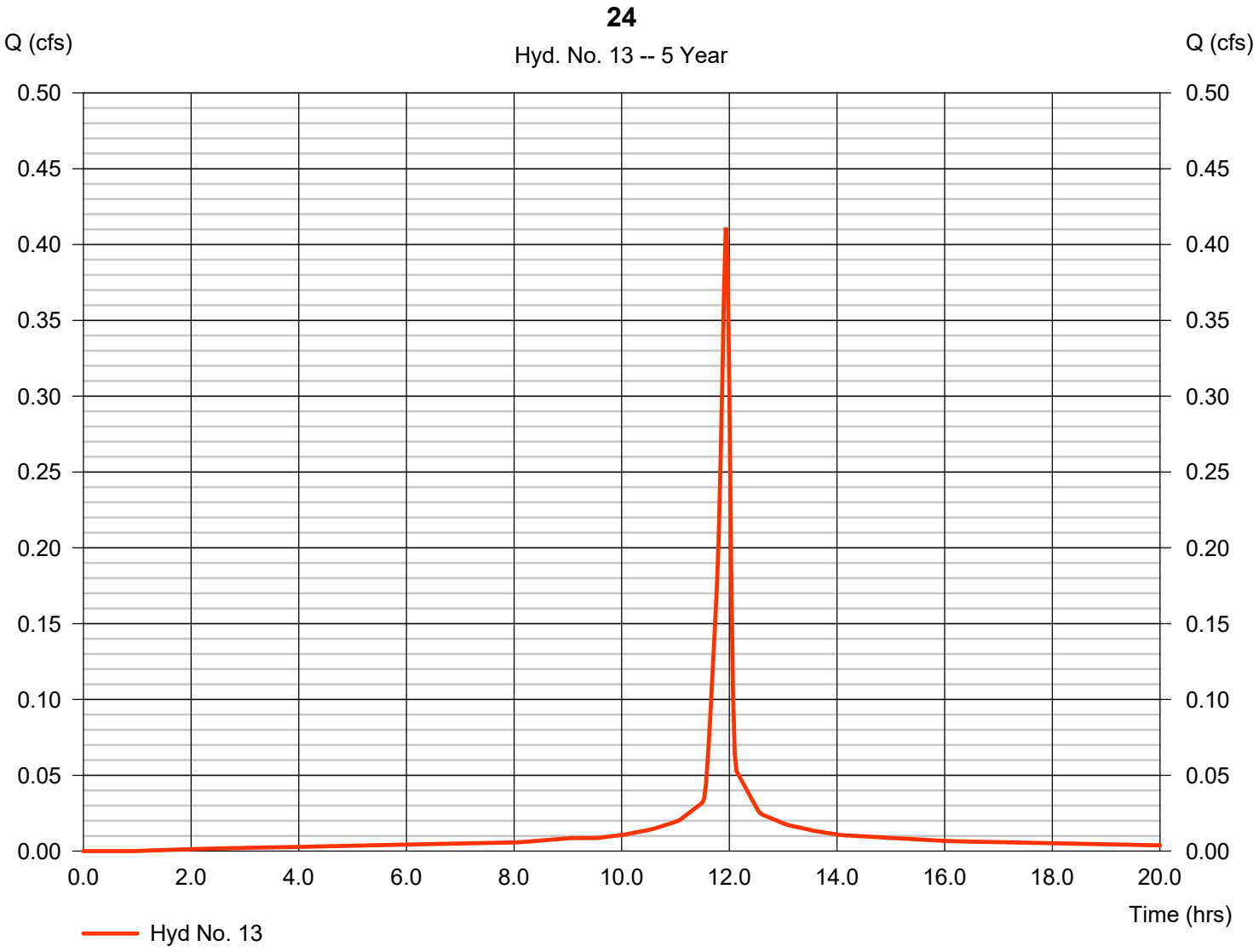


Hydrograph Report

Hyd. No. 13

24

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.411 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	975 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

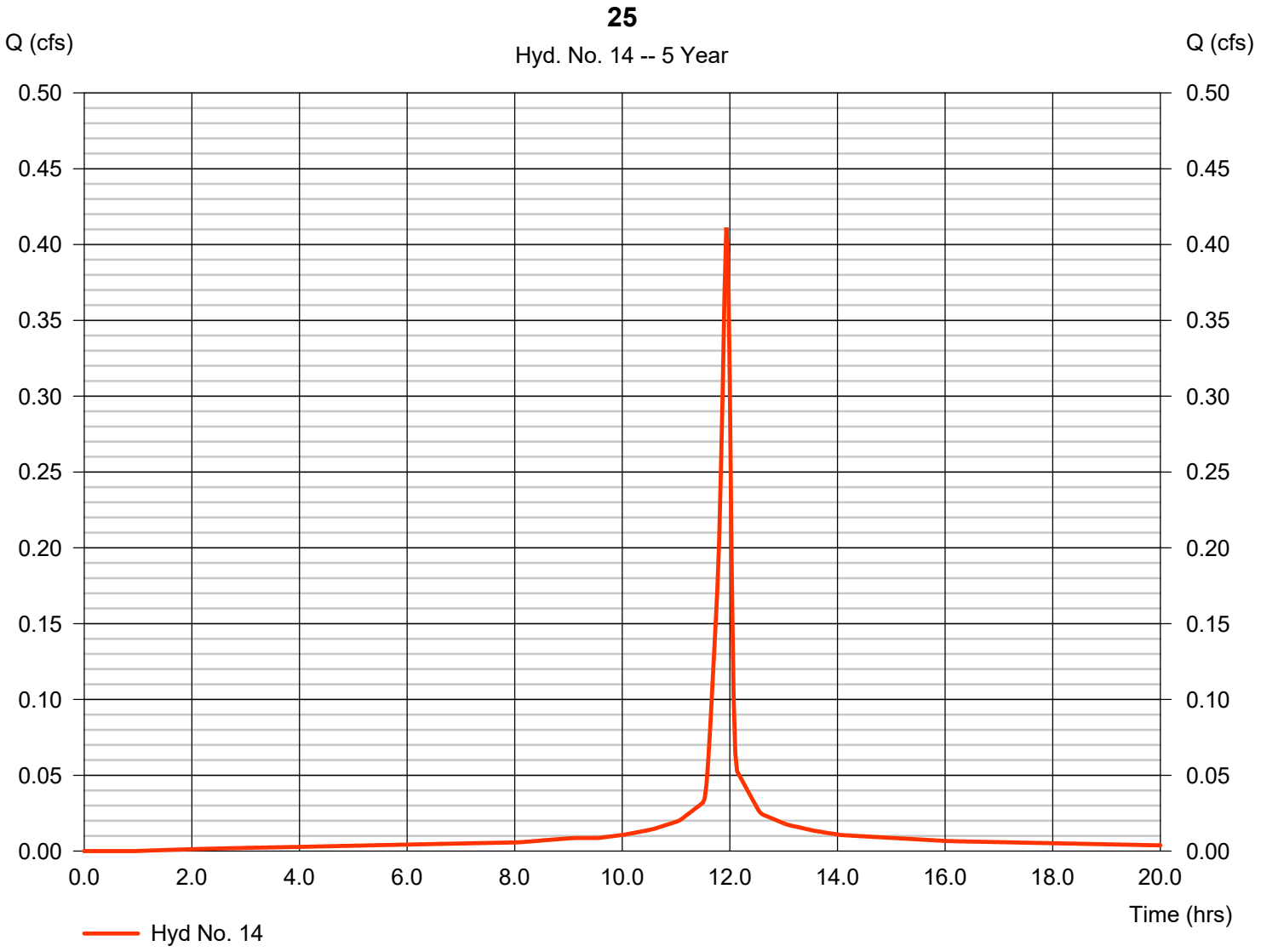


Hydrograph Report

Hyd. No. 14

25

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.411 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	975 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

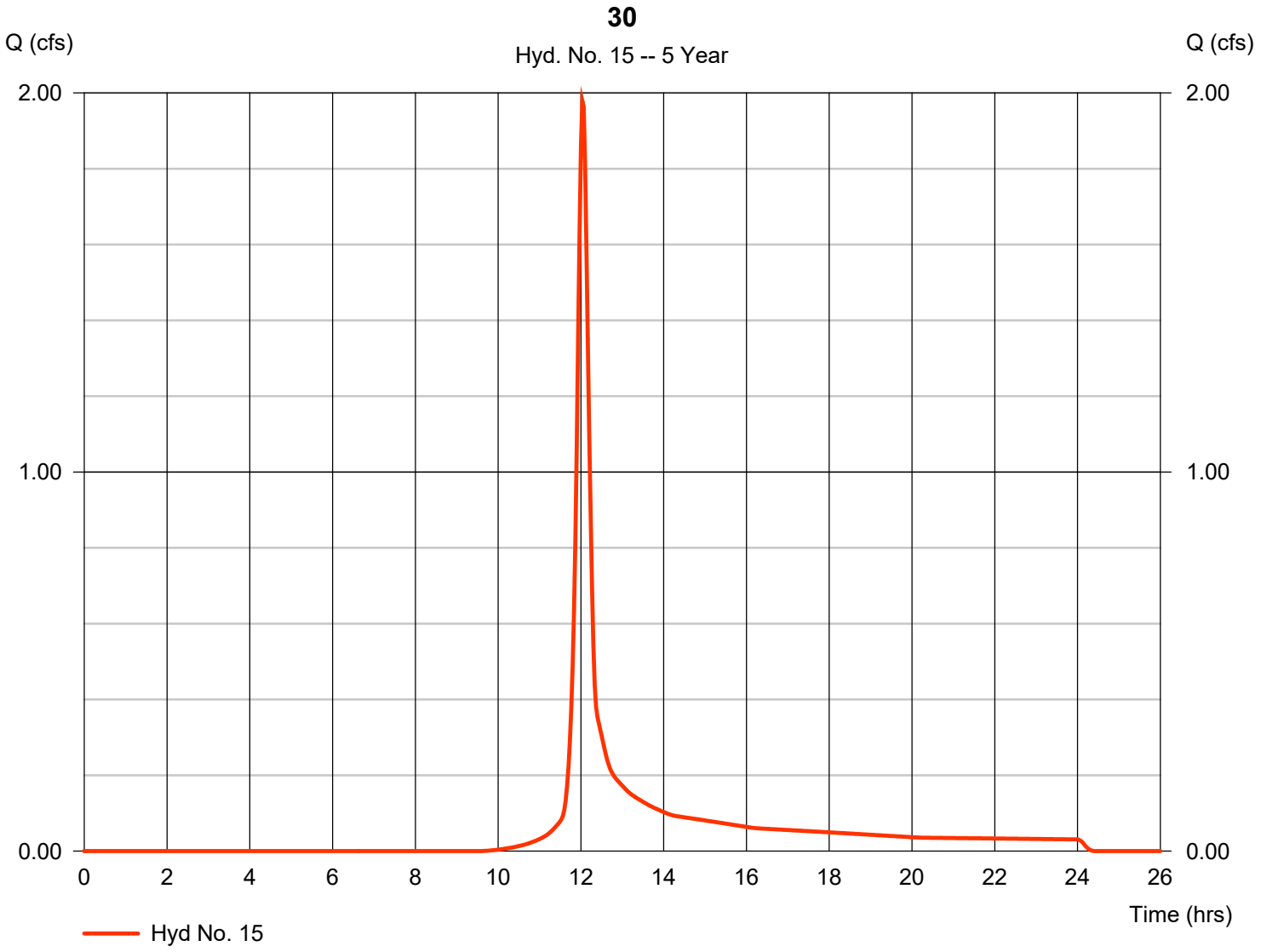


Hydrograph Report

Hyd. No. 15

30

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.978 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	5,608 cuft
Drainage area	=	0.860 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

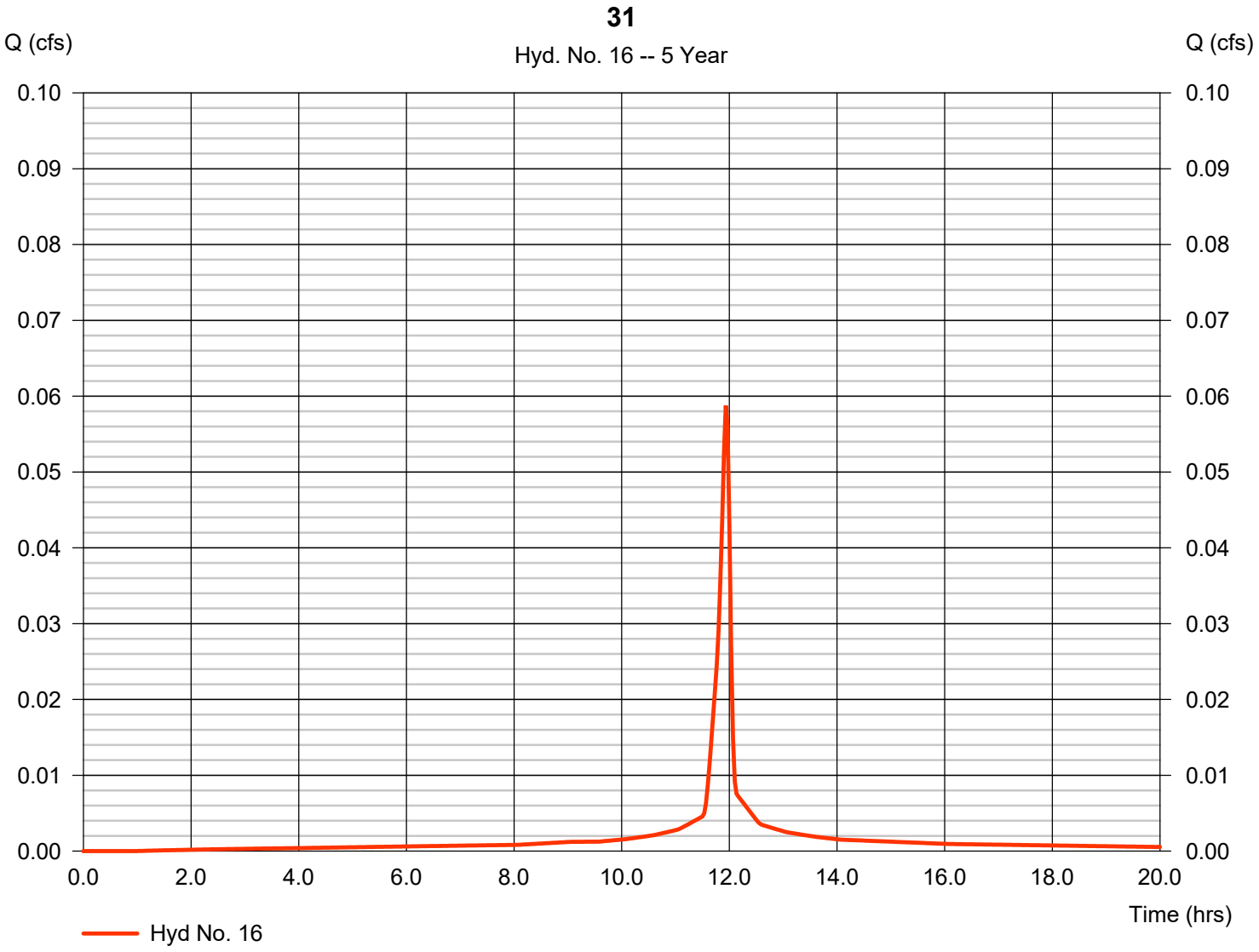


Hydrograph Report

Hyd. No. 16

31

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.059 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	139 cuft
Drainage area	=	0.010 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

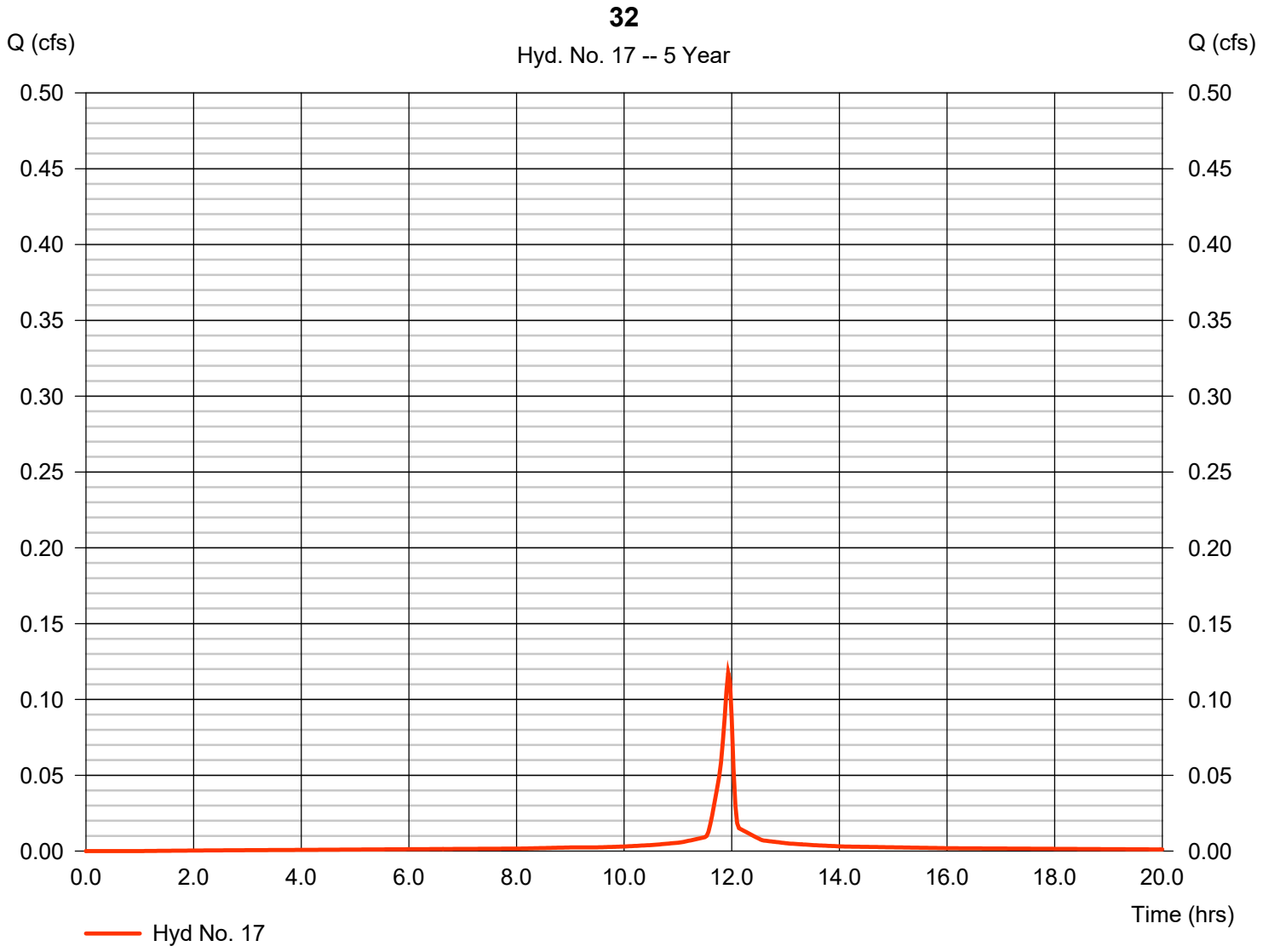


Hydrograph Report

Hyd. No. 17

32

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.117 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	279 cuft
Drainage area	=	0.020 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

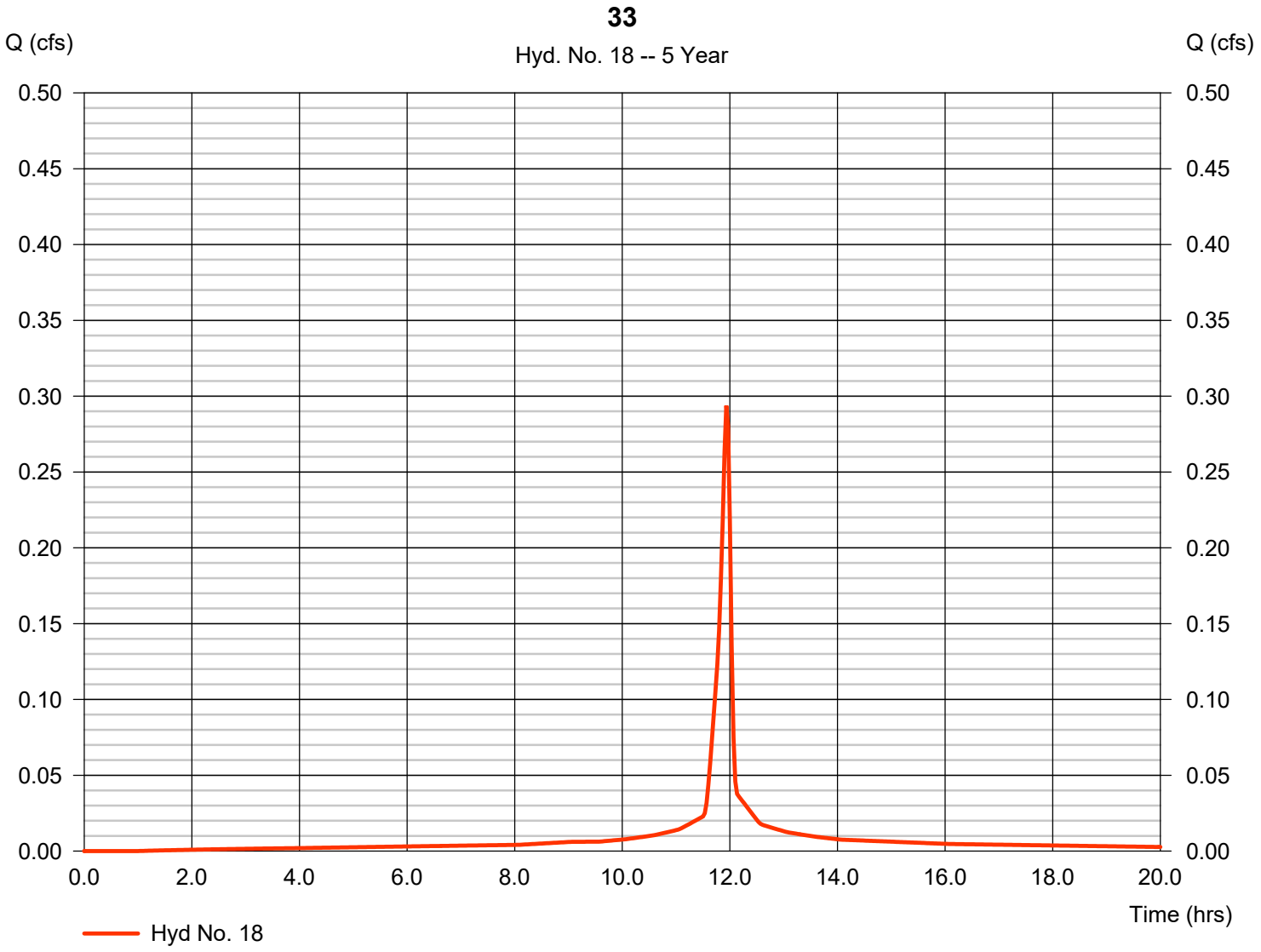


Hydrograph Report

Hyd. No. 18

33

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.294 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	697 cuft
Drainage area	=	0.050 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

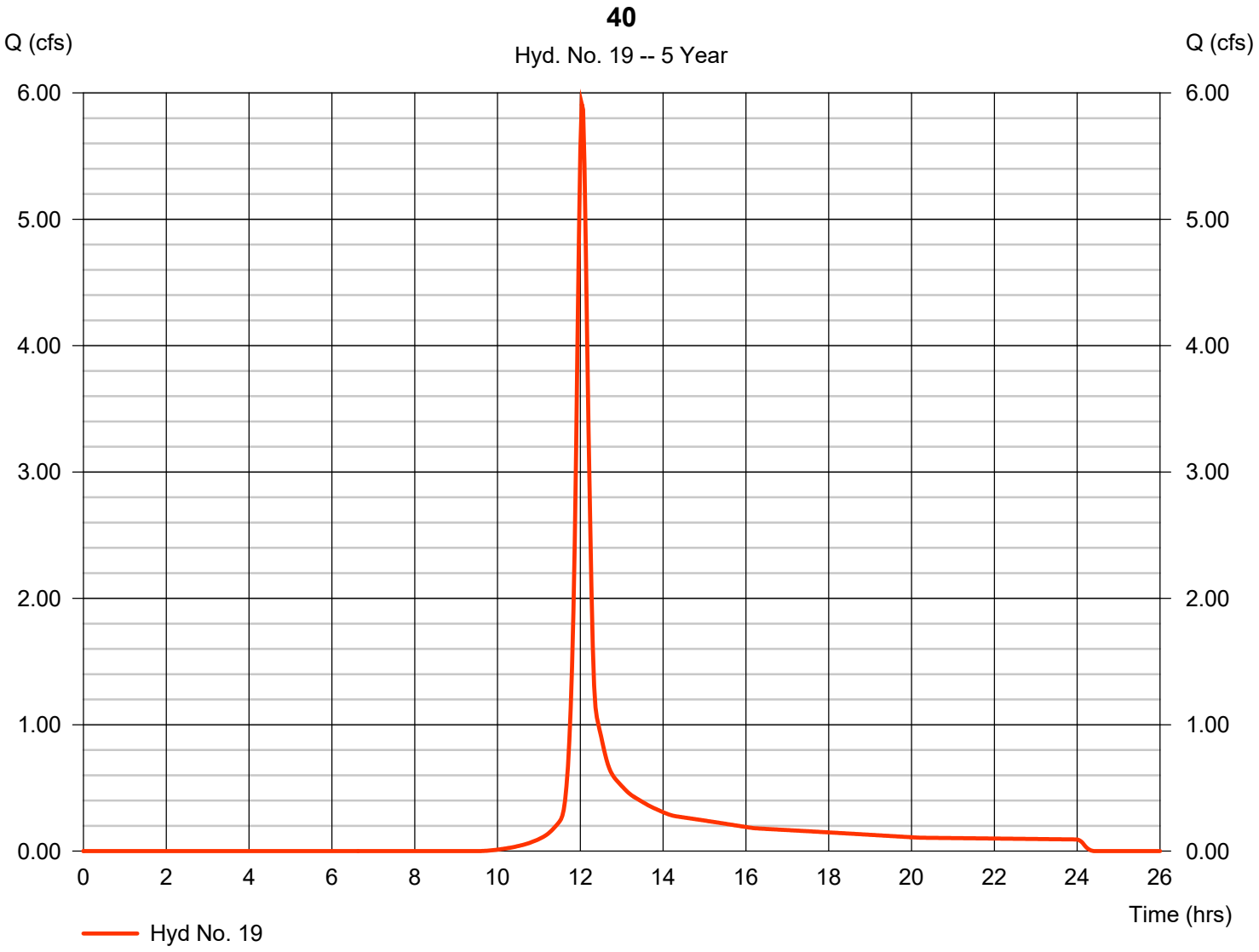


Hydrograph Report

Hyd. No. 19

40

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.912 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	16,760 cuft
Drainage area	=	2.570 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

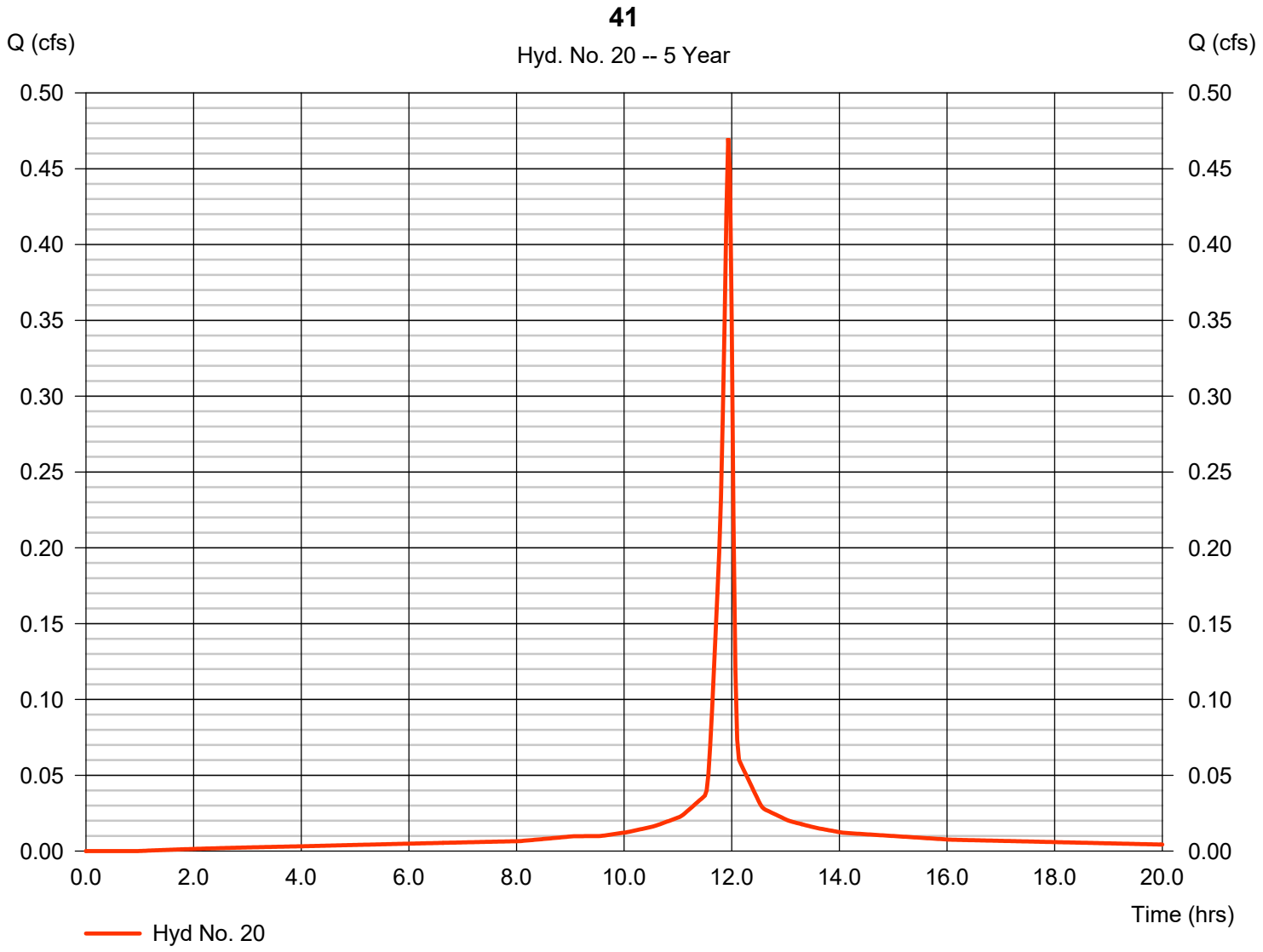


Hydrograph Report

Hyd. No. 20

41

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.470 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,115 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

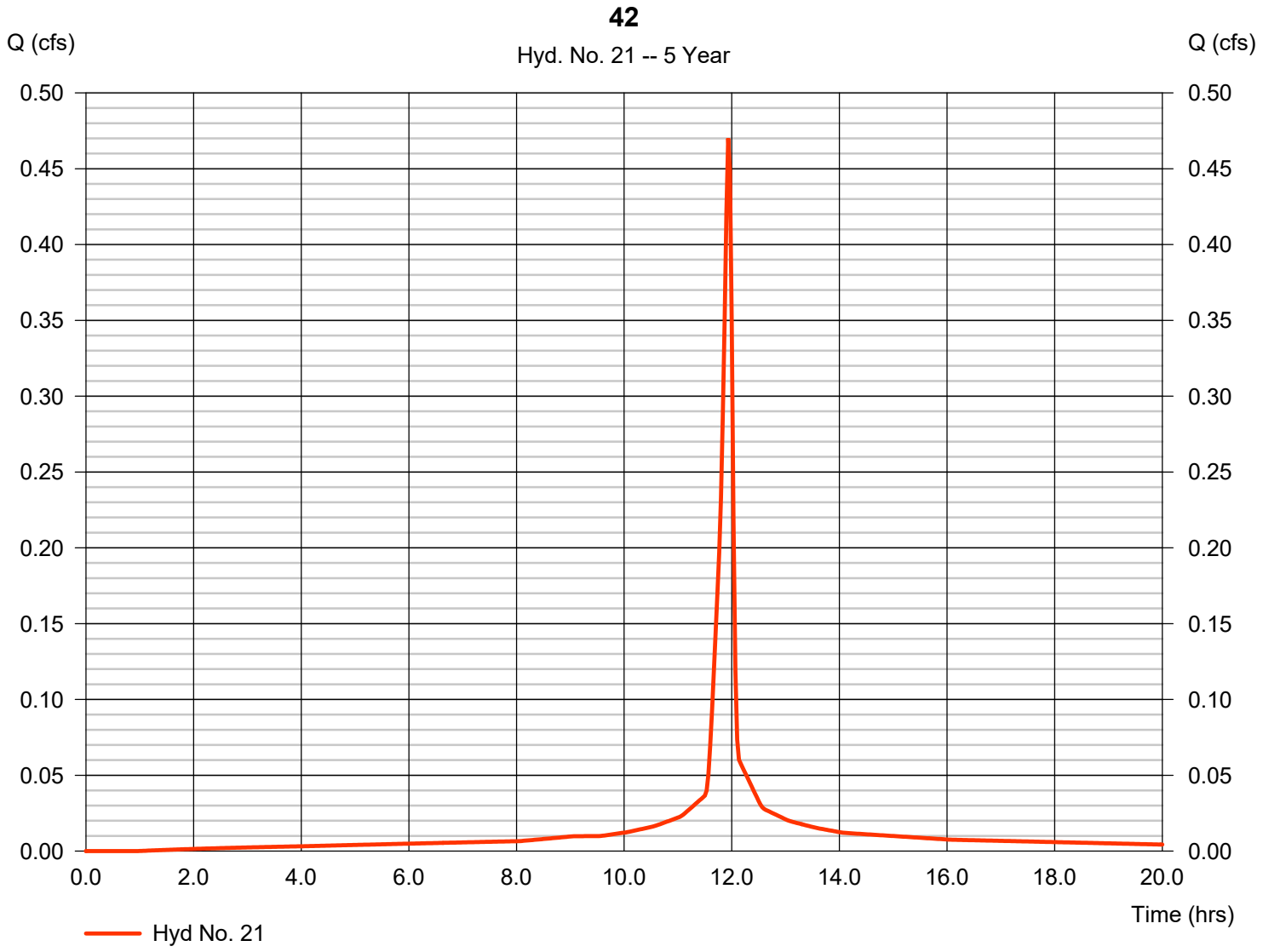


Hydrograph Report

Hyd. No. 21

42

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.470 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,115 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

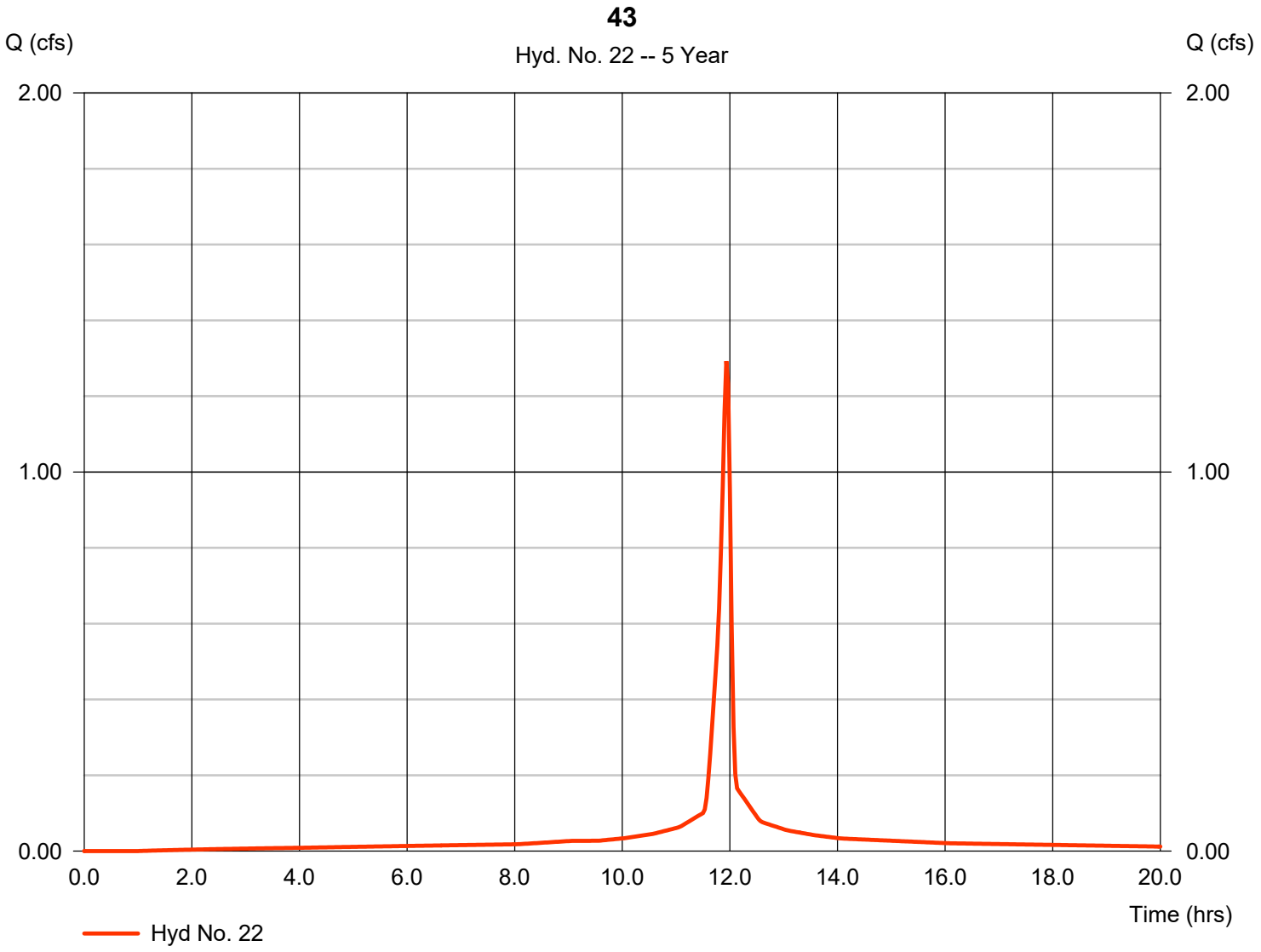


Hydrograph Report

Hyd. No. 22

43

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.292 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,065 cuft
Drainage area	=	0.220 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

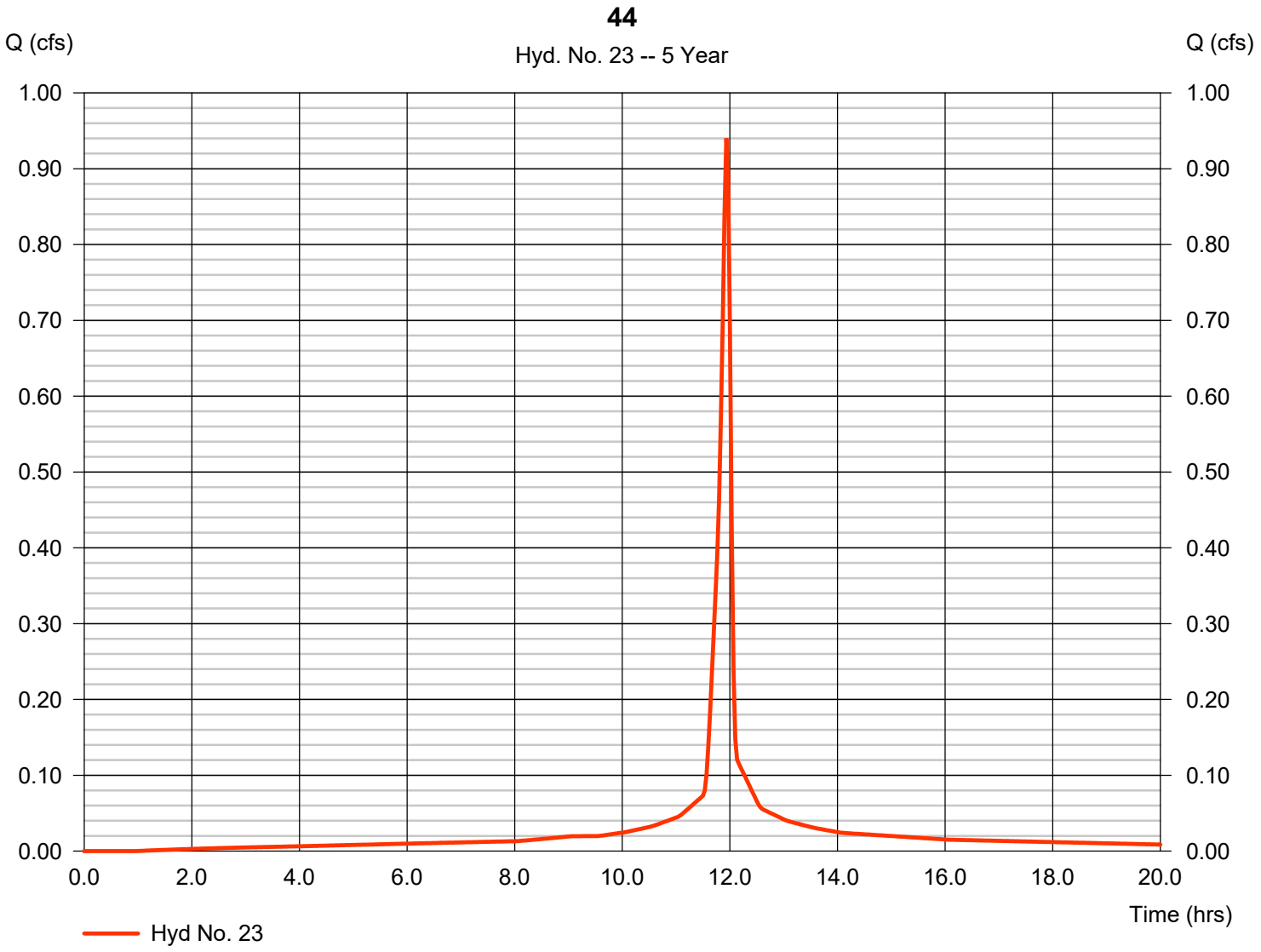


Hydrograph Report

Hyd. No. 23

44

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.940 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,229 cuft
Drainage area	=	0.160 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

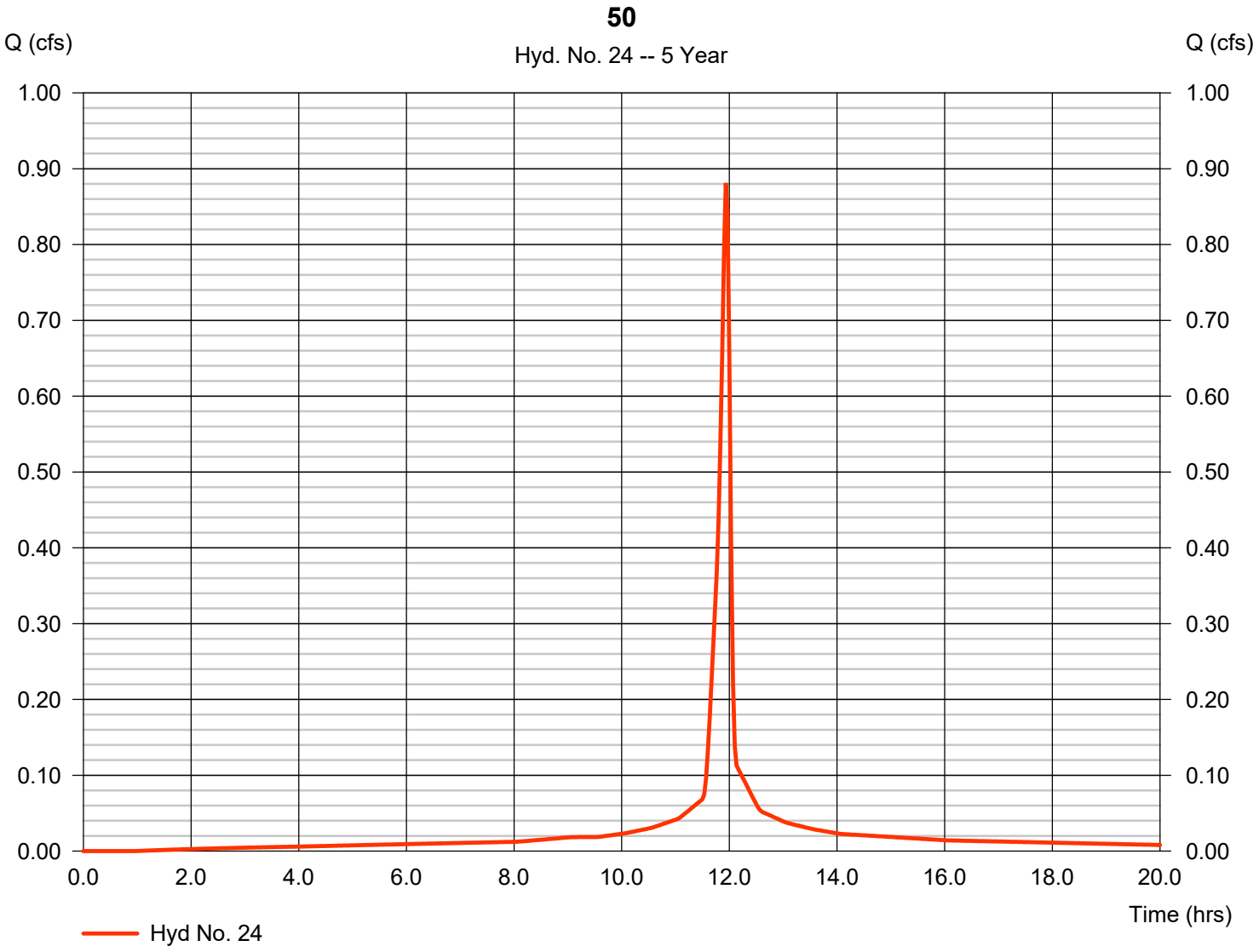


Hydrograph Report

Hyd. No. 24

50

Hydrograph type	= SCS Runoff	Peak discharge	= 0.881 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 2,090 cuft
Drainage area	= 0.150 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.33 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

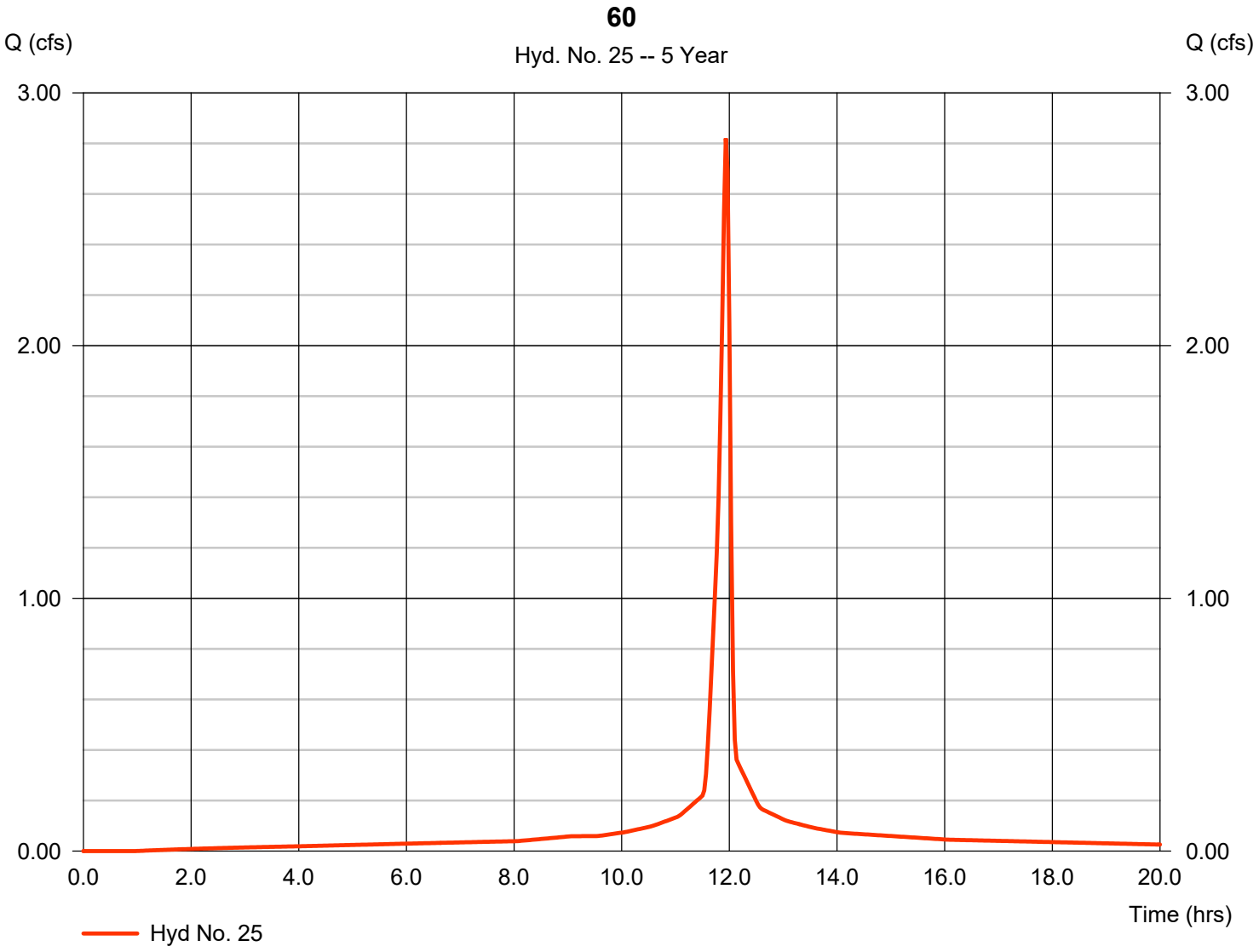


Hydrograph Report

Hyd. No. 25

60

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.820 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	6,688 cuft
Drainage area	=	0.480 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

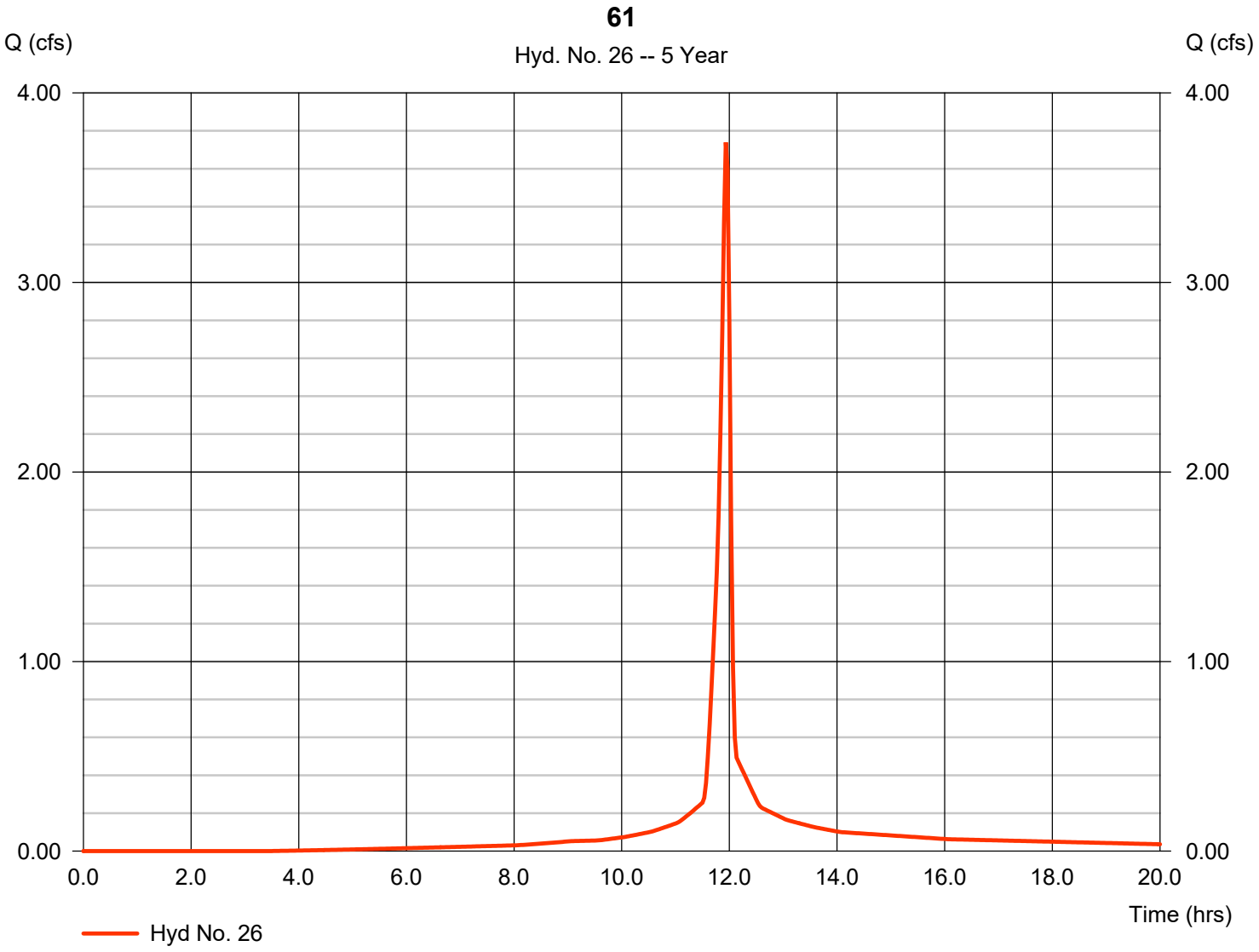


Hydrograph Report

Hyd. No. 26

61

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.739 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	8,095 cuft
Drainage area	=	0.690 ac	Curve number	=	92.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

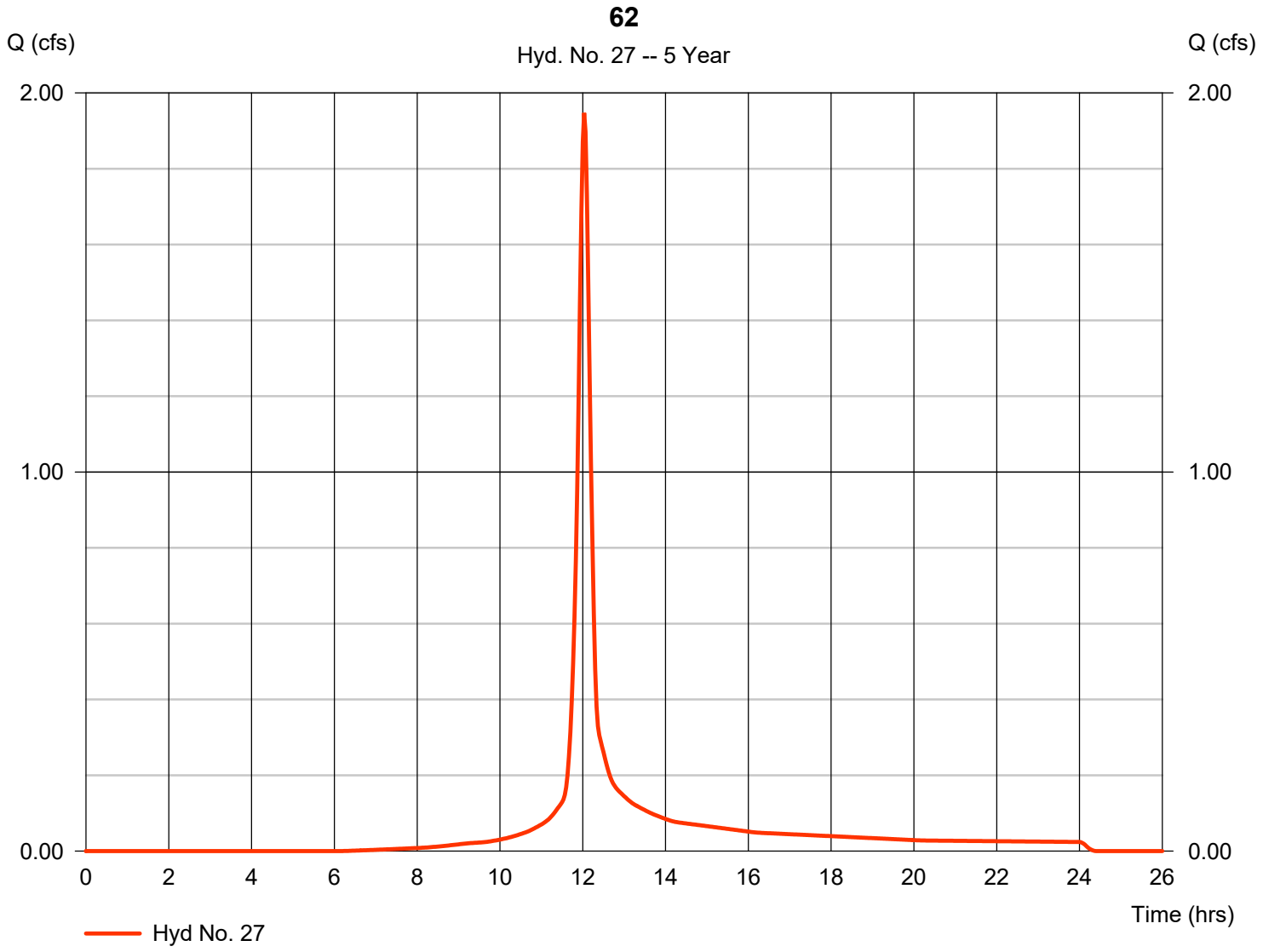


Hydrograph Report

Hyd. No. 27

62

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.947 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	5,496 cuft
Drainage area	=	0.560 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

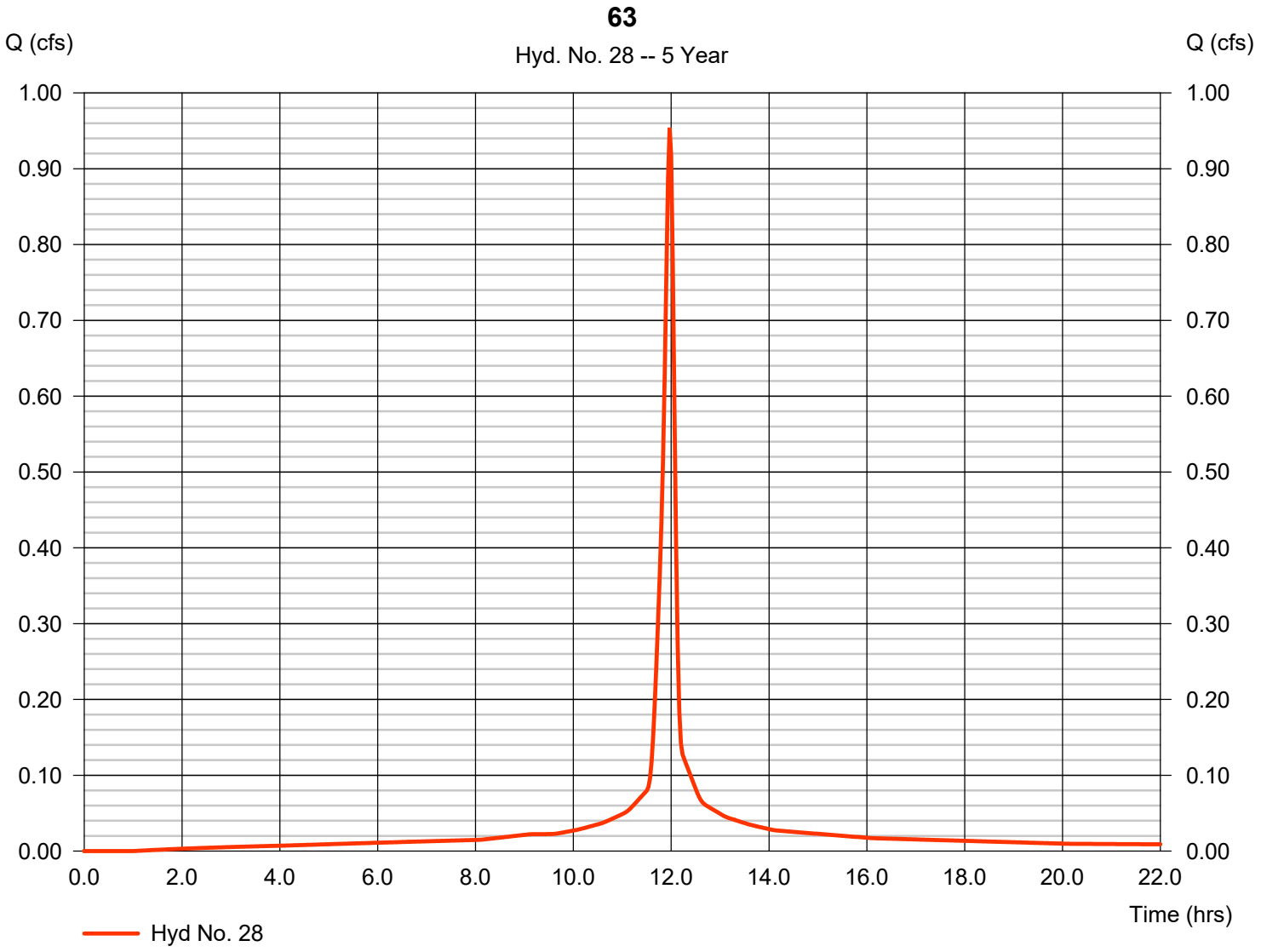


Hydrograph Report

Hyd. No. 28

63

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.954 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,527 cuft
Drainage area	=	0.170 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

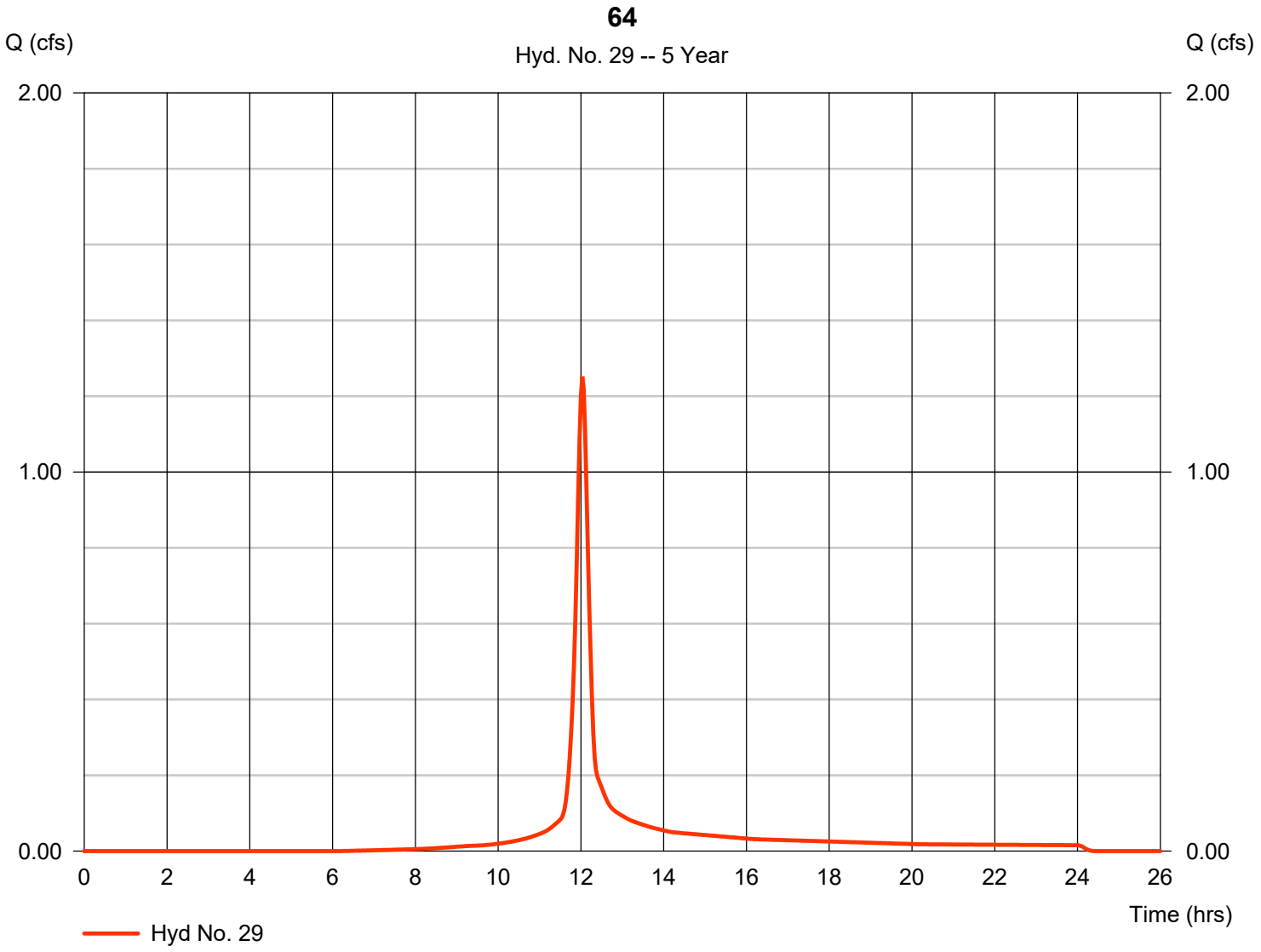


Hydrograph Report

Hyd. No. 29

64

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.252 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	3,533 cuft
Drainage area	=	0.360 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

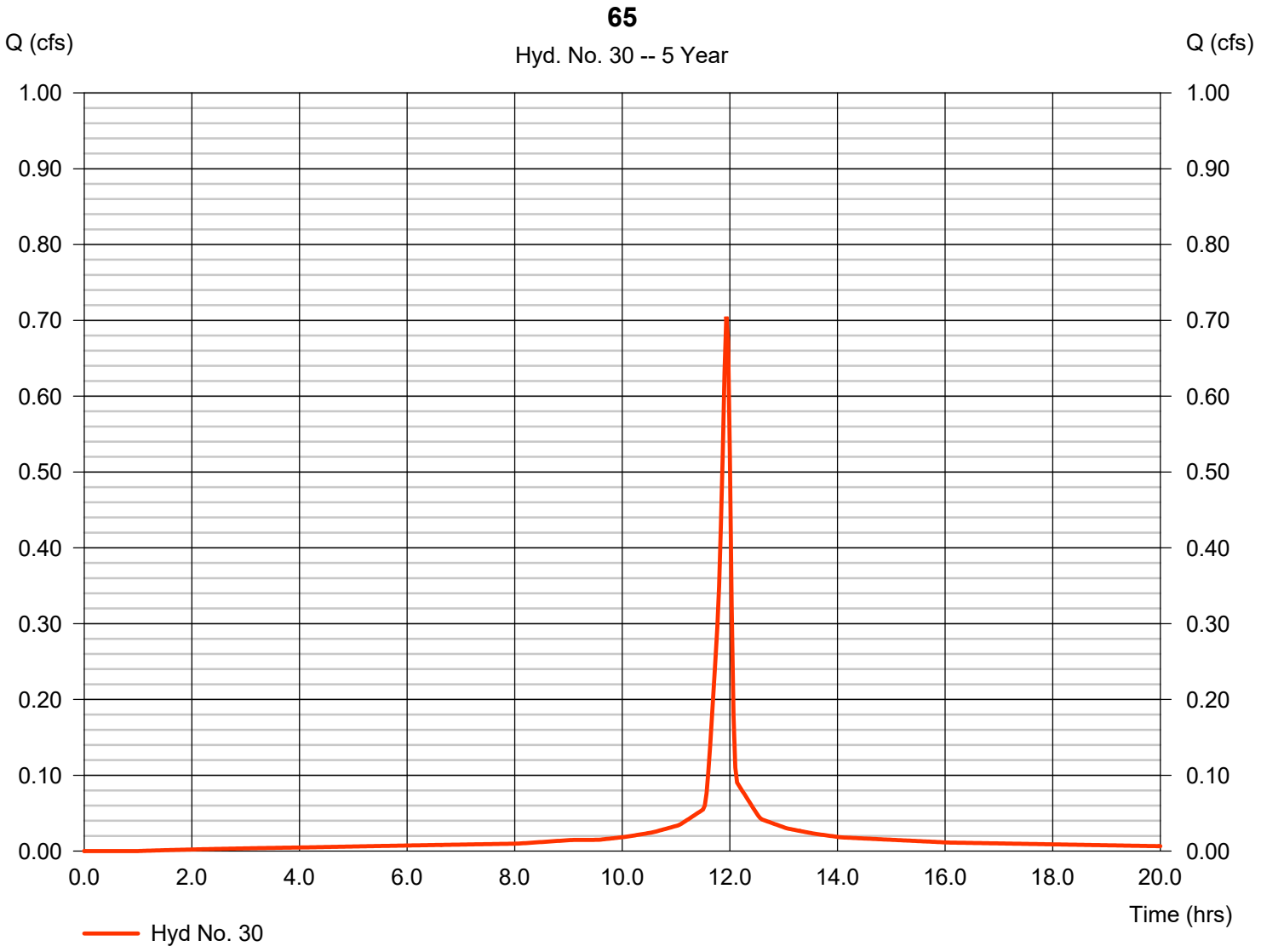


Hydrograph Report

Hyd. No. 30

65

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.705 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,672 cuft
Drainage area	=	0.120 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.33 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

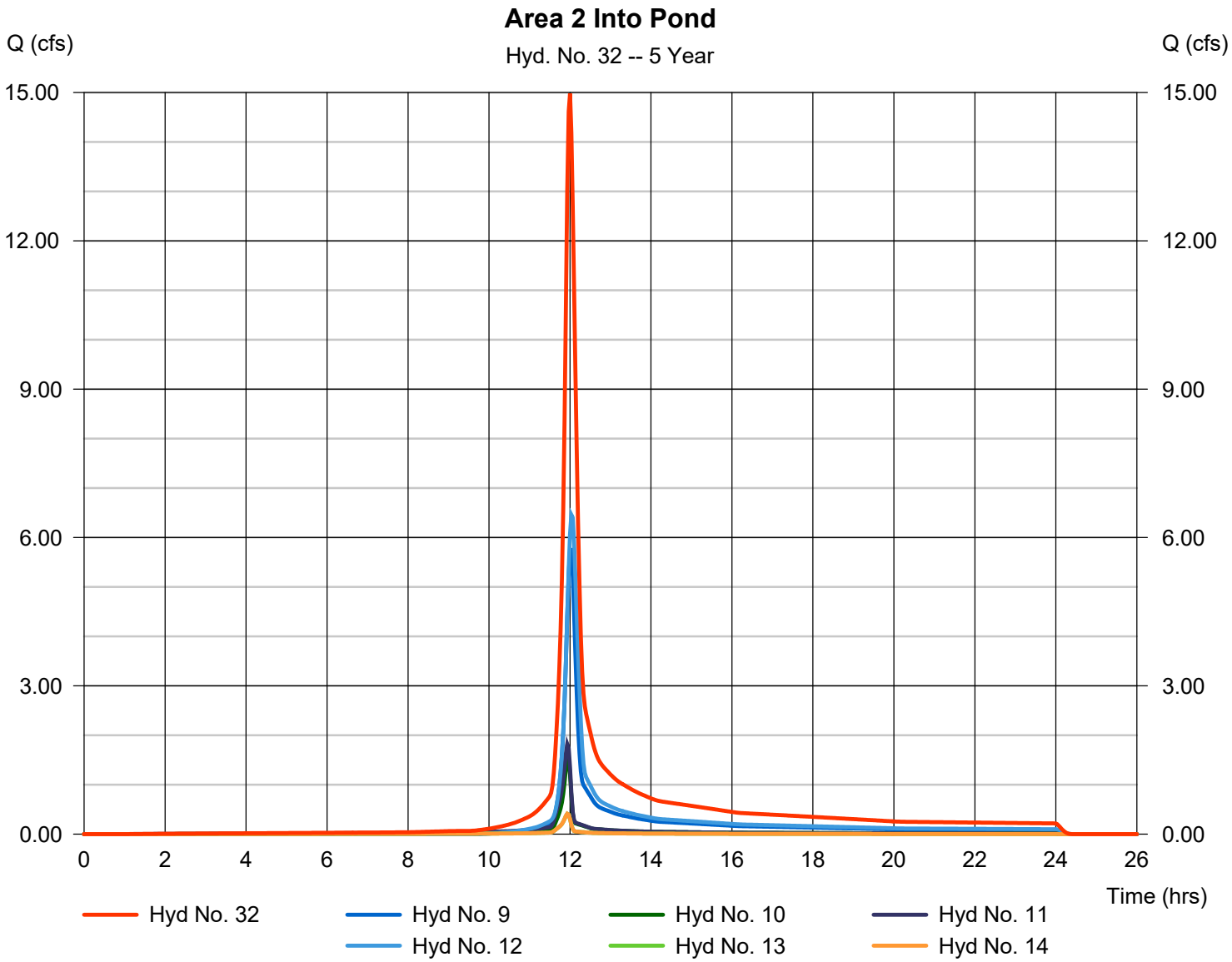


Hydrograph Report

Hyd. No. 32

Area 2 Into Pond

Hydrograph type	=	Combine	Peak discharge	=	14.98 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	42,712 cuft
Inflow hyds.	=	9, 10, 11, 12, 13, 14	Contrib. drain. area	=	5.770 ac

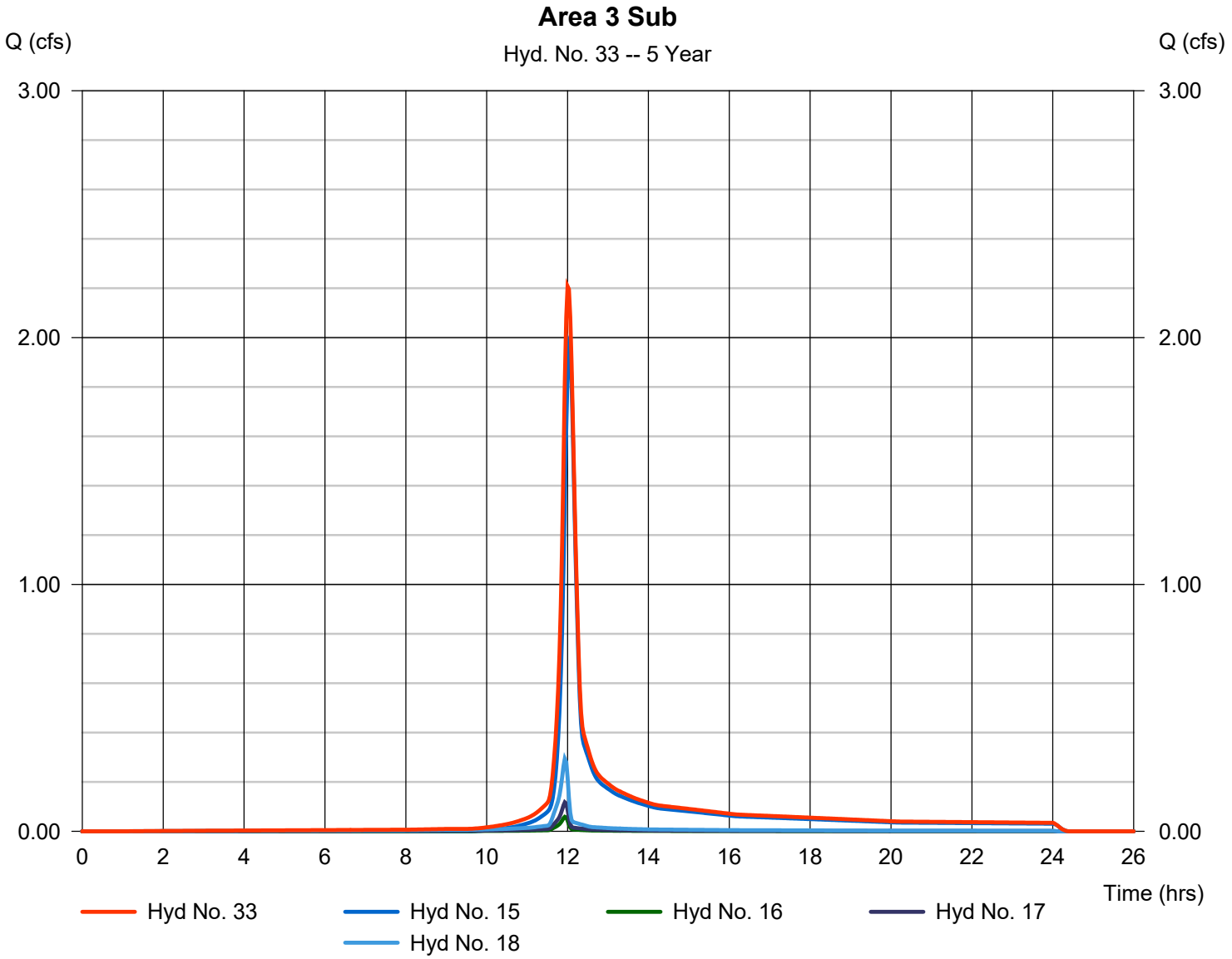


Hydrograph Report

Hyd. No. 33

Area 3 Sub

Hydrograph type	= Combine	Peak discharge	= 2.207 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 6,723 cuft
Inflow hyds.	= 15, 16, 17, 18	Contrib. drain. area	= 0.940 ac

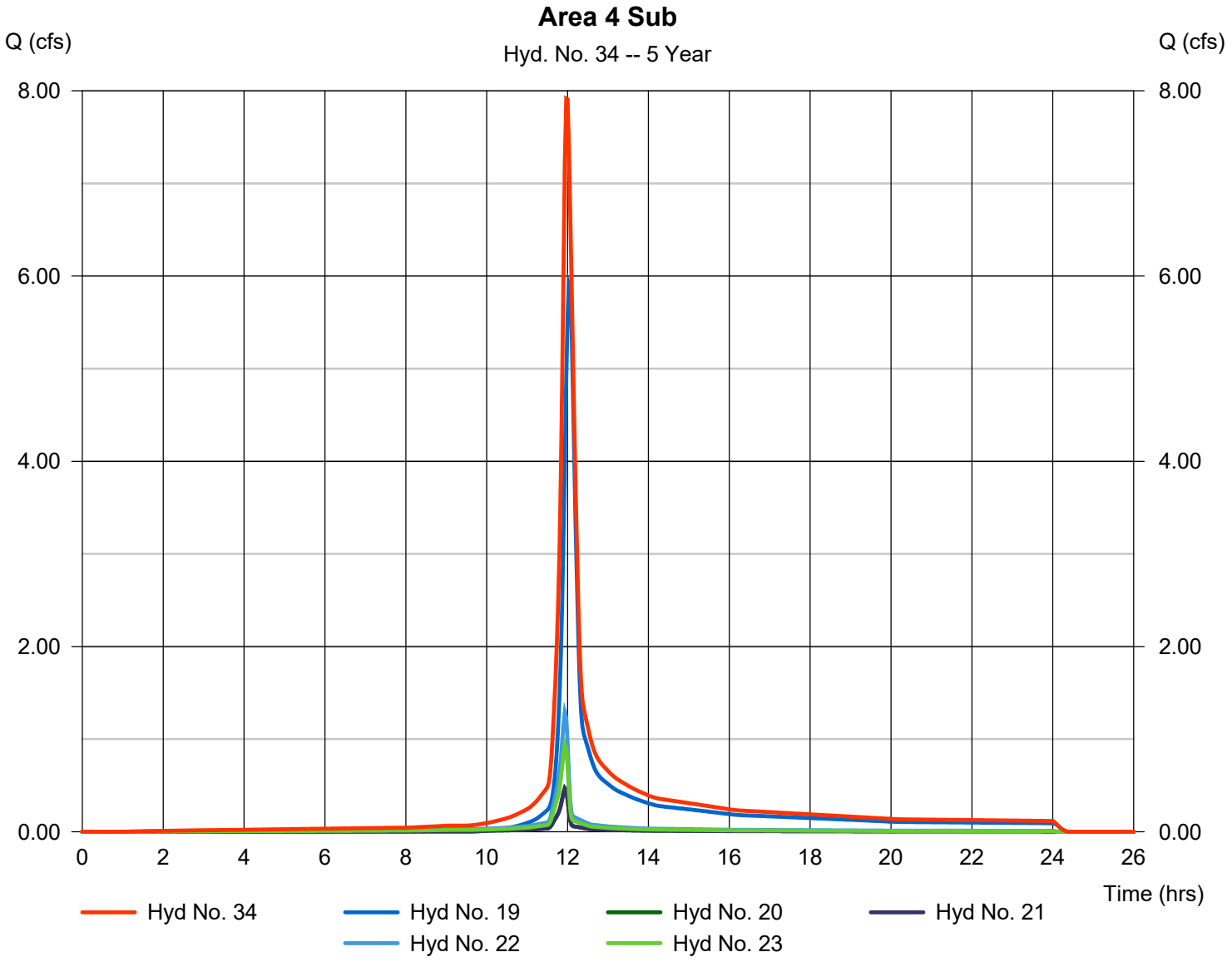


Hydrograph Report

Hyd. No. 34

Area 4 Sub

Hydrograph type	=	Combine	Peak discharge	=	7.915 cfs
Storm frequency	=	5 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	24,284 cuft
Inflow hyds.	=	19, 20, 21, 22, 23	Contrib. drain. area	=	3.110 ac

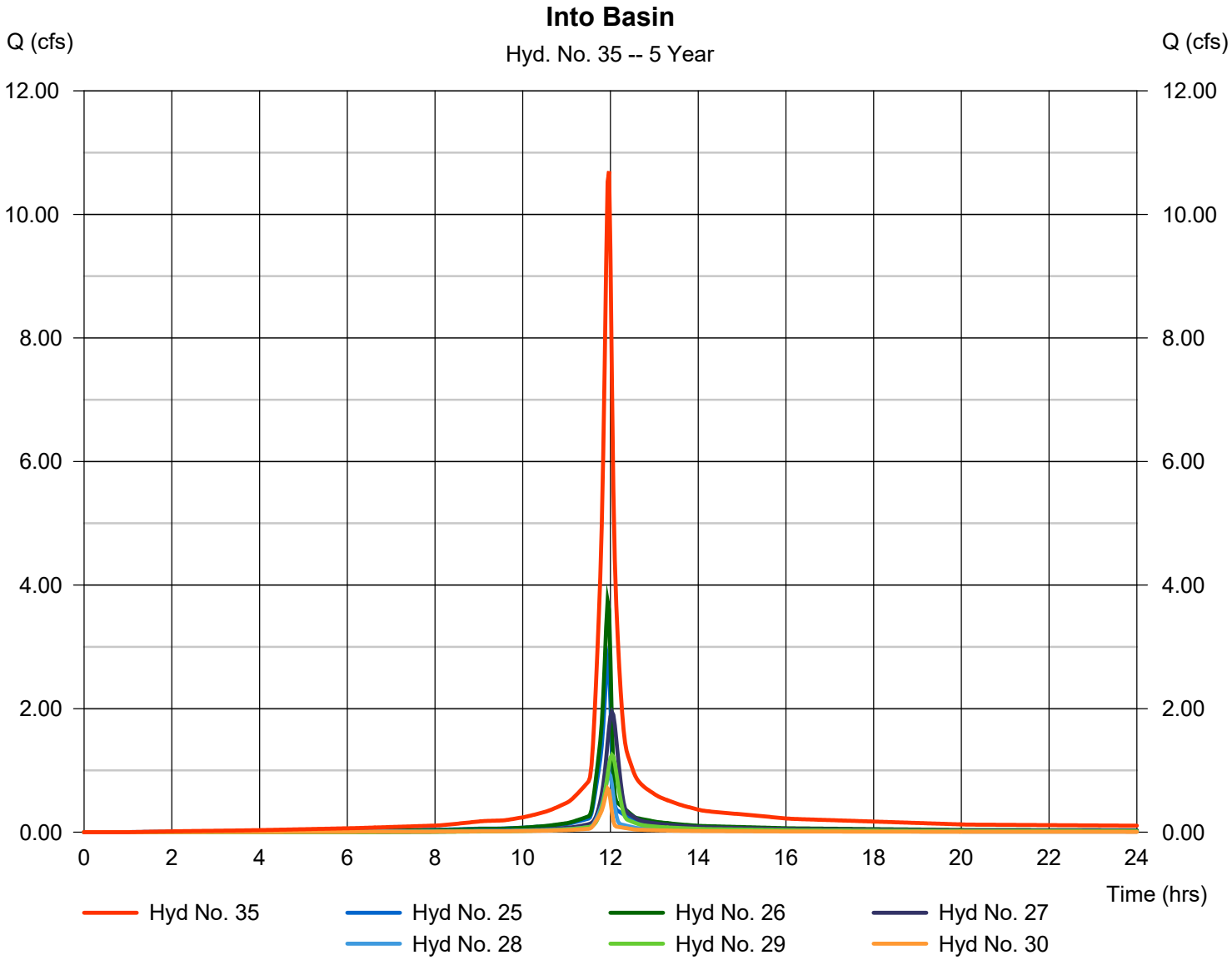


Hydrograph Report

Hyd. No. 35

Into Basin

Hydrograph type	= Combine	Peak discharge	= 10.70 cfs
Storm frequency	= 5 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 28,011 cuft
Inflow hyds.	= 25, 26, 27, 28, 29, 30	Contrib. drain. area	= 2.380 ac



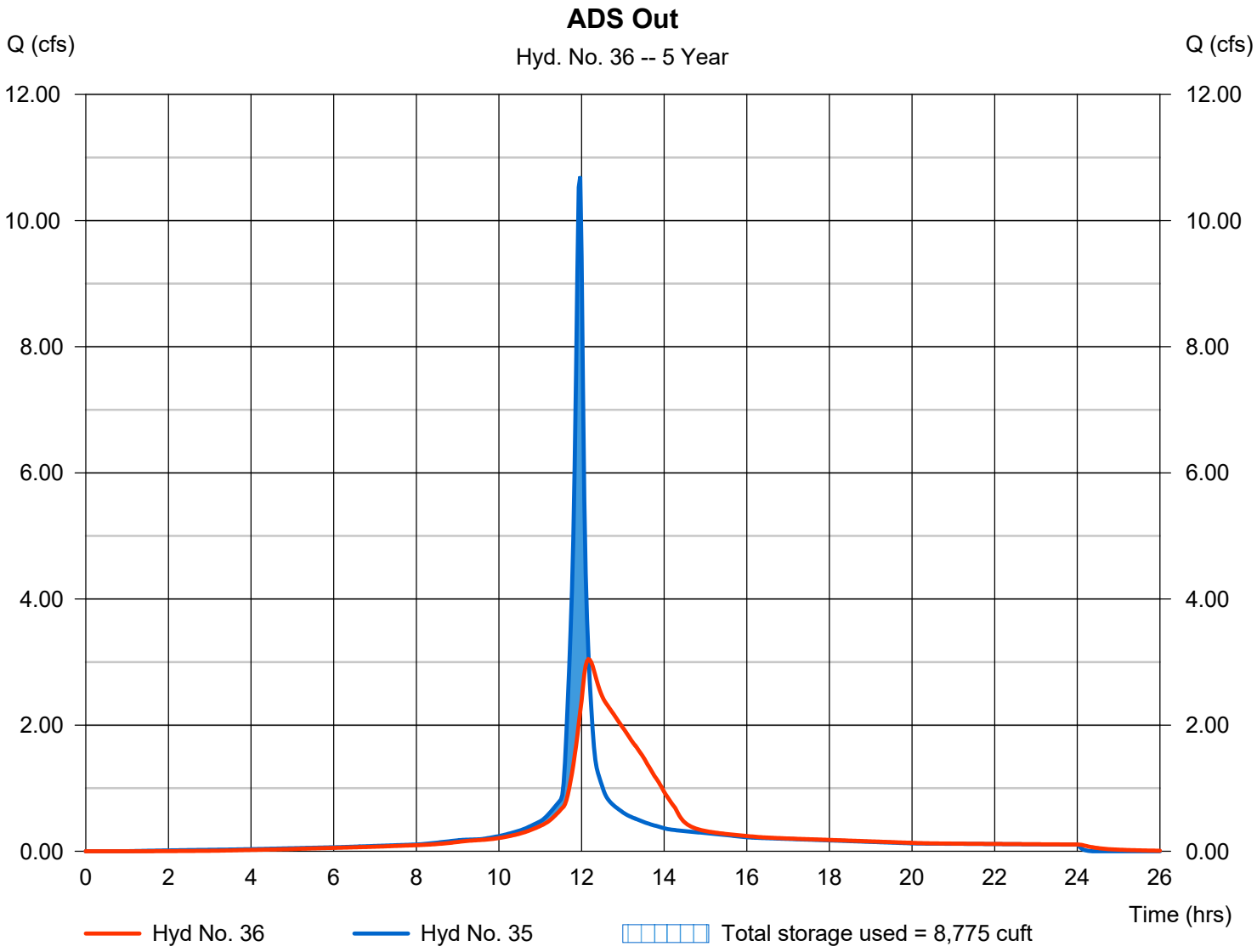
Hydrograph Report

Hyd. No. 36

ADS Out

Hydrograph type	=	Reservoir	Peak discharge	=	3.045 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.17 hrs
Time interval	=	2 min	Hyd. volume	=	28,001 cuft
Inflow hyd. No.	=	35 - Into Basin	Max. Elevation	=	1255.25 ft
Reservoir name	=	ADS	Max. Storage	=	8,775 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - ADS

Pond Data

UG Chambers -Invert elev. = 1253.63 ft, Rise x Span = 3.75 x 6.25 ft, Barrel Len = 93.17 ft, No. Barrels = 8, Slope = 0.00%, Headers = No
Encasement -Invert elev. = 1252.88 ft, Width = 6.92 ft, Height = 5.50 ft, Voids = 30.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1252.88	n/a	0	0
0.55	1253.43	n/a	851	851
1.10	1253.98	n/a	1,991	2,842
1.65	1254.53	n/a	2,618	5,461
2.20	1255.08	n/a	2,553	8,013
2.75	1255.63	n/a	2,442	10,455
3.30	1256.18	n/a	2,274	12,729
3.85	1256.73	n/a	2,025	14,755
4.40	1257.28	n/a	1,611	16,366
4.95	1257.83	n/a	901	17,267
5.50	1258.38	n/a	851	18,118

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 15.00	9.00	9.00	0.00
Span (in)	= 15.00	9.00	9.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 1252.88	1252.88	1254.88	0.00
Length (ft)	= 100.00	0.50	0.50	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.00	0.00	0.00	0.00
Crest El. (ft)	= 1256.78	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)
TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

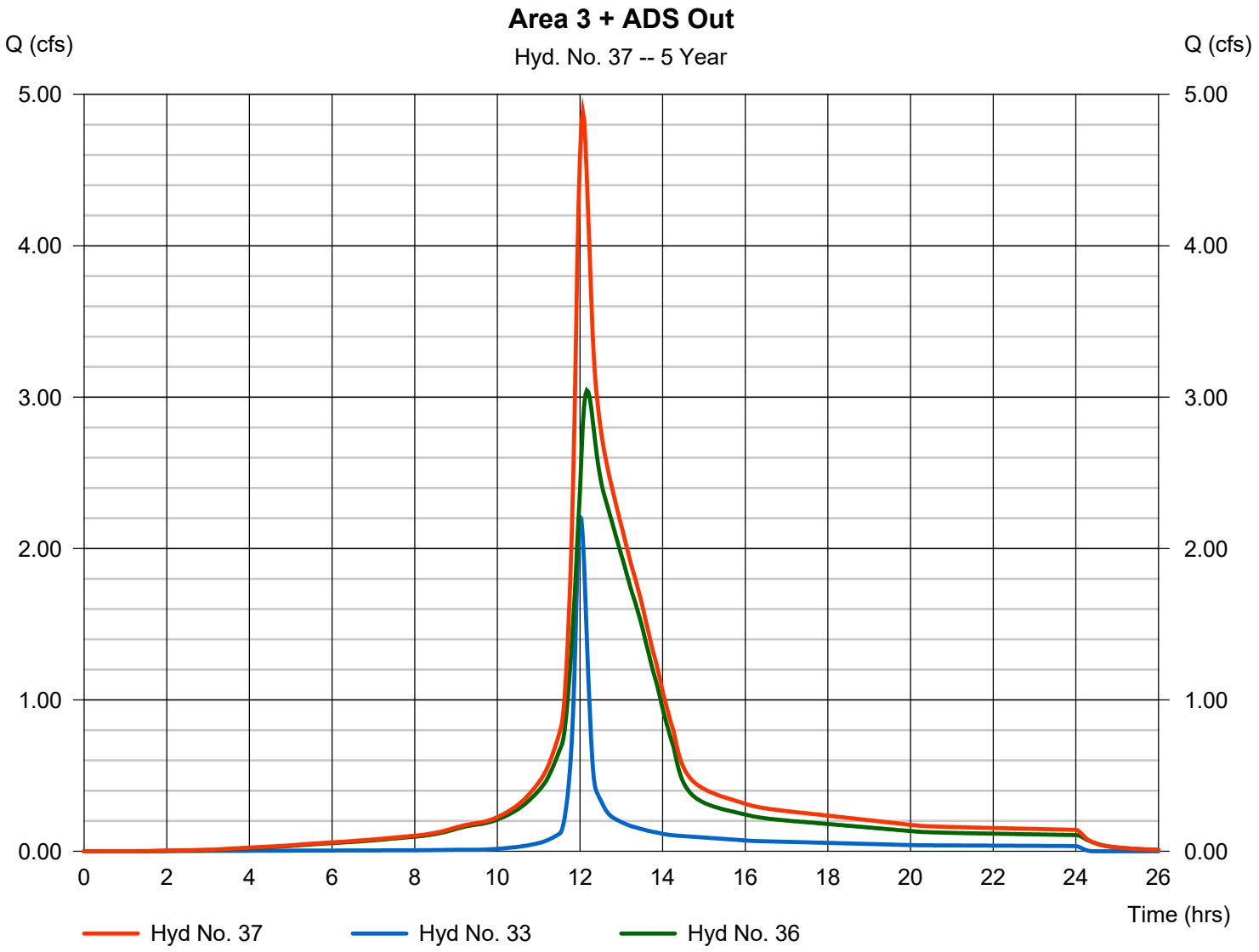
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1252.88	0.00	0.00	0.00	---	0.00	---	---	---	---	---	0.000
0.55	851	1253.43	0.68 ic	0.68 ic	0.00	---	0.00	---	---	---	---	---	0.680
1.10	2,842	1253.98	1.51 ic	1.51 ic	0.00	---	0.00	---	---	---	---	---	1.513
1.65	5,461	1254.53	2.07 ic	2.07 ic	0.00	---	0.00	---	---	---	---	---	2.068
2.20	8,013	1255.08	2.66 ic	2.50 ic	0.15 ic	---	0.00	---	---	---	---	---	2.649
2.75	10,455	1255.63	4.04 ic	2.74 ic	1.30 ic	---	0.00	---	---	---	---	---	4.044
3.30	12,729	1256.18	5.02 ic	2.97 ic	2.05 ic	---	0.00	---	---	---	---	---	5.018
3.85	14,755	1256.73	5.79 ic	3.20 ic	2.58 ic	---	0.00	---	---	---	---	---	5.785
4.40	16,366	1257.28	8.96 oc	2.13 ic	2.13 ic	---	4.71	---	---	---	---	---	8.962
4.95	17,267	1257.83	10.70 oc	0.97 ic	0.97 ic	---	8.77 s	---	---	---	---	---	10.70
5.50	18,118	1258.38	11.47 oc	0.63 ic	0.63 ic	---	10.22 s	---	---	---	---	---	11.47

Hydrograph Report

Hyd. No. 37

Area 3 + ADS Out

Hydrograph type	=	Combine	Peak discharge	=	4.889 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	34,724 cuft
Inflow hyds.	=	33, 36	Contrib. drain. area	=	0.000 ac

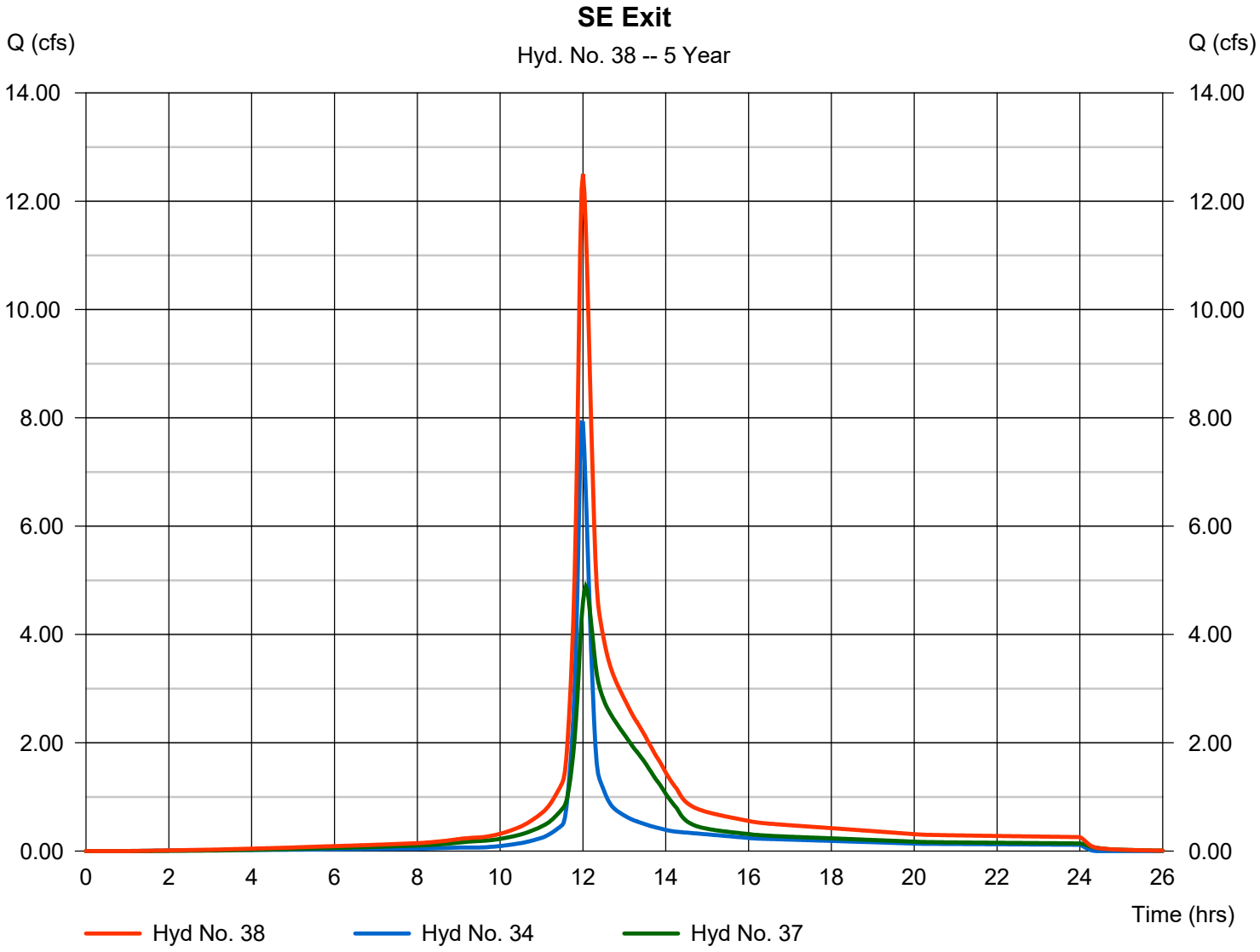


Hydrograph Report

Hyd. No. 38

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	12.50 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	59,008 cuft
Inflow hyds.	=	34, 37	Contrib. drain. area	=	0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	8.195	2	722	23,042	------	------	------	1
2	SCS Runoff	19.73	2	718	45,157	------	------	------	2
3	SCS Runoff	7.321	2	720	19,026	------	------	------	3
4	SCS Runoff	9.261	2	722	26,040	------	------	------	4
5	SCS Runoff	0.335	2	722	942	------	------	------	5
6	Combine	16.54	2	722	45,066	3, 4,	------	------	SE Exit
8	SCS Runoff	3.023	2	720	7,901	------	------	------	10
9	SCS Runoff	7.600	2	720	19,751	------	------	------	20
10	SCS Runoff	1.926	2	716	3,944	------	------	------	21
11	SCS Runoff	2.136	2	716	5,099	------	------	------	22
12	SCS Runoff	8.532	2	722	23,979	------	------	------	23
13	SCS Runoff	0.482	2	716	1,151	------	------	------	24
14	SCS Runoff	0.482	2	716	1,151	------	------	------	25
15	SCS Runoff	2.620	2	722	7,367	------	------	------	30
16	SCS Runoff	0.069	2	716	164	------	------	------	31
17	SCS Runoff	0.138	2	716	329	------	------	------	32
18	SCS Runoff	0.345	2	716	822	------	------	------	33
19	SCS Runoff	7.829	2	722	22,014	------	------	------	40
20	SCS Runoff	0.551	2	716	1,316	------	------	------	41
21	SCS Runoff	0.551	2	716	1,316	------	------	------	42
22	SCS Runoff	1.516	2	716	3,618	------	------	------	43
23	SCS Runoff	1.103	2	716	2,632	------	------	------	44
24	SCS Runoff	1.034	2	716	2,467	------	------	------	50
25	SCS Runoff	3.308	2	716	7,895	------	------	------	60
26	SCS Runoff	4.466	2	716	9,788	------	------	------	61
27	SCS Runoff	2.408	2	722	6,843	------	------	------	62
28	SCS Runoff	1.119	2	718	2,982	------	------	------	63
29	SCS Runoff	1.548	2	722	4,399	------	------	------	64
30	SCS Runoff	0.827	2	716	1,974	------	------	------	65
32	Combine	19.47	2	720	55,075	9, 10, 11, 12, 13, 14,	------	------	Area 2 Into Pond
33	Combine	2.887	2	720	8,682	15, 16, 17, 18,	------	------	Area 3 Sub
34	Combine	10.16	2	720	30,896	19, 20, 21, 22, 23,	------	------	Area 4 Sub
35	Combine	12.82	2	718	33,881	25, 26, 27, 28, 29, 30,	------	------	Into Basin

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

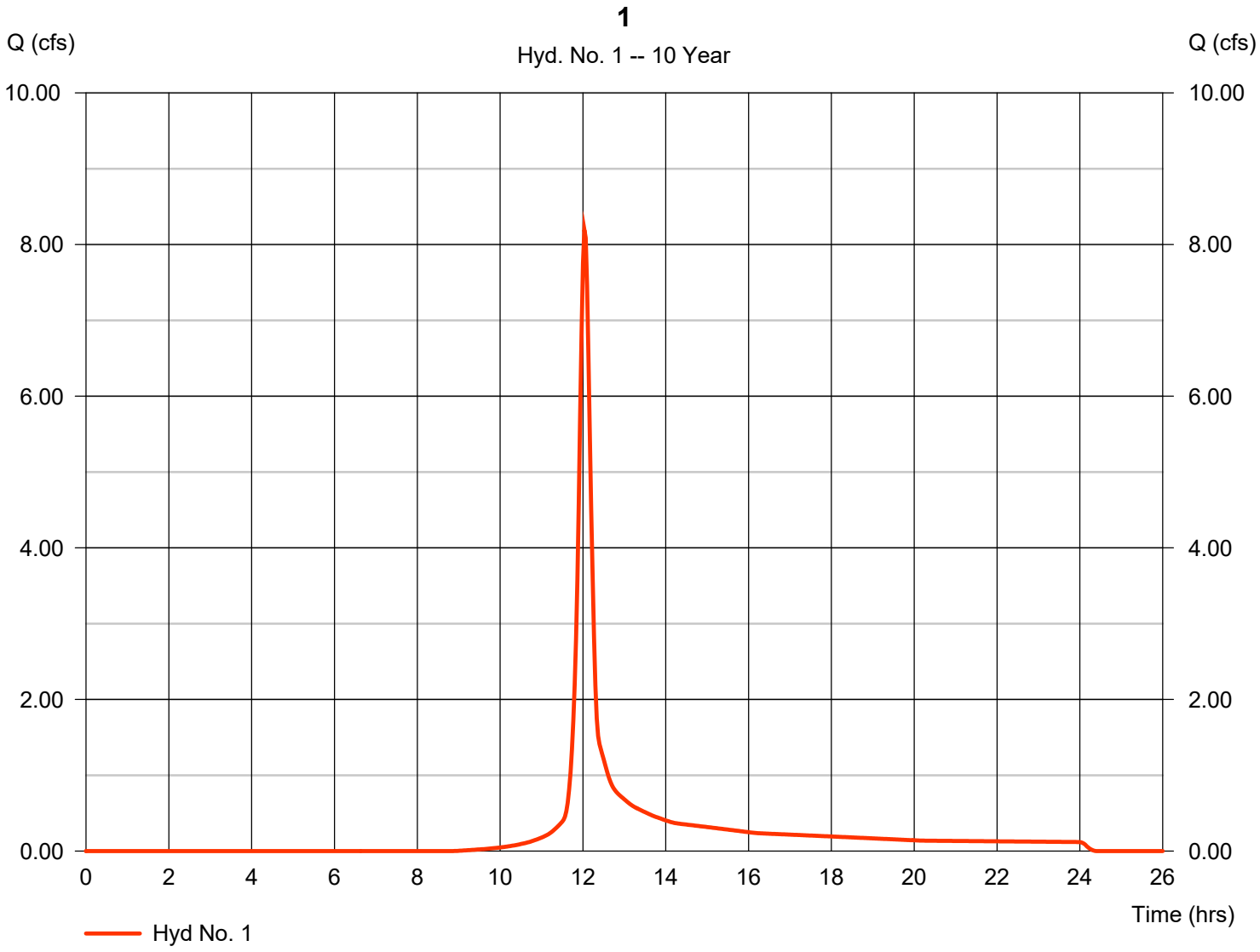
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
36	Reservoir	4.049	2	730	33,871	35	1255.63	10,464	ADS Out
37	Combine	6.590	2	724	42,554	33, 36	------	------	Area 3 + ADS Out
38	Combine	16.10	2	720	73,449	34, 37	------	------	SE Exit

Hydrograph Report

Hyd. No. 1

1

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.195 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	23,042 cuft
Drainage area	=	2.690 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	14.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

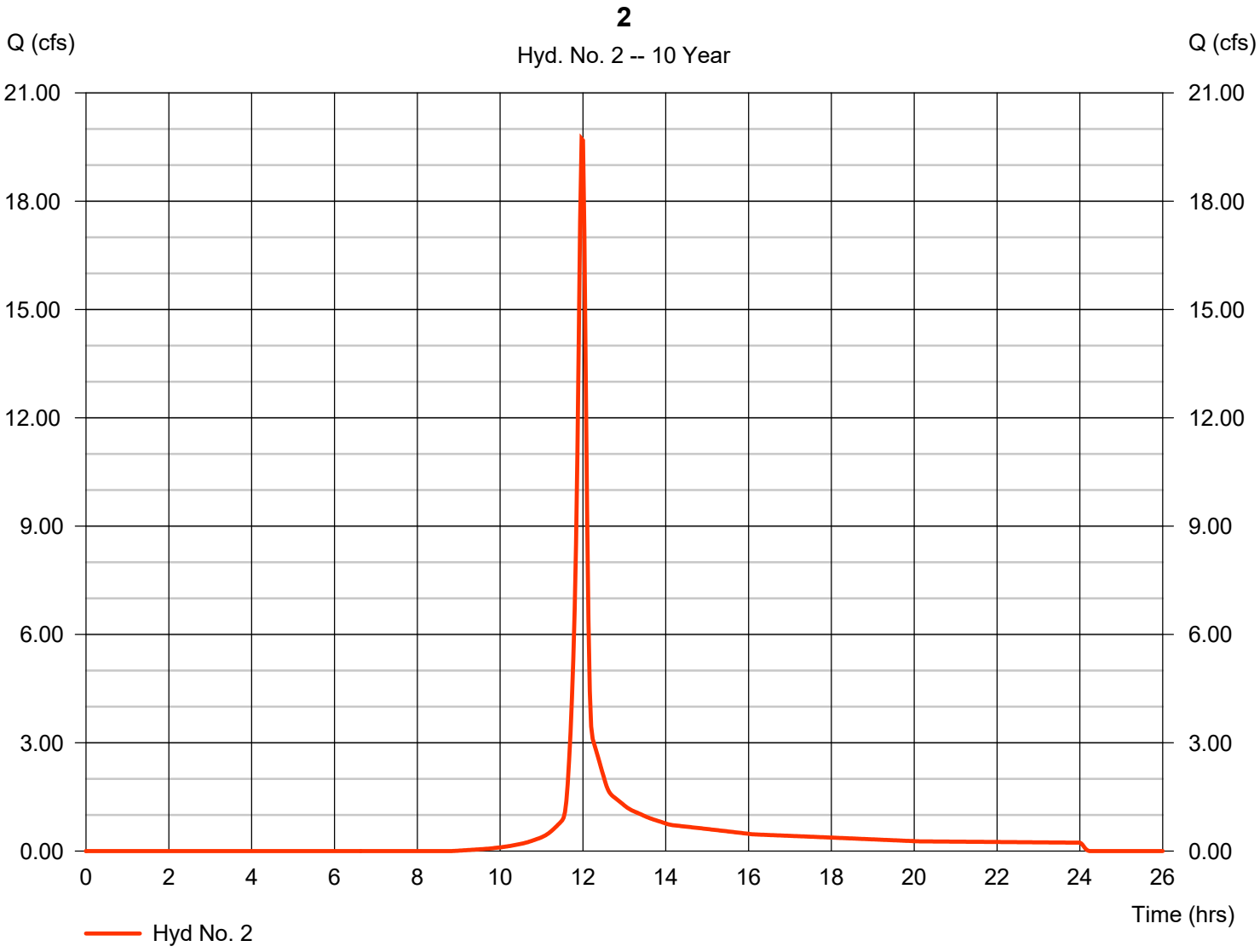


Hydrograph Report

Hyd. No. 2

2

Hydrograph type	=	SCS Runoff	Peak discharge	=	19.73 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	45,157 cuft
Drainage area	=	5.140 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

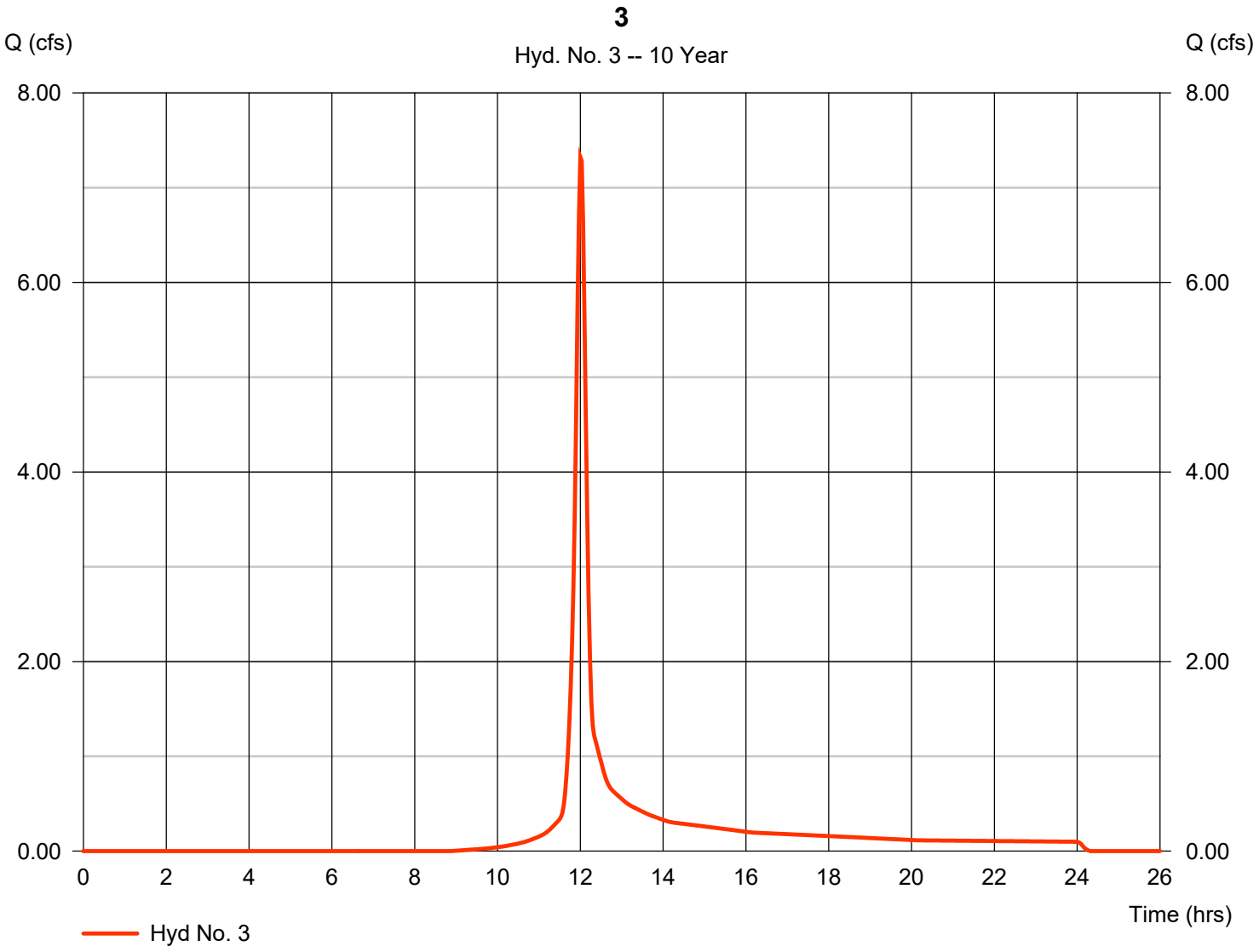


Hydrograph Report

Hyd. No. 3

3

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.321 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	19,026 cuft
Drainage area	=	2.100 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	13.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

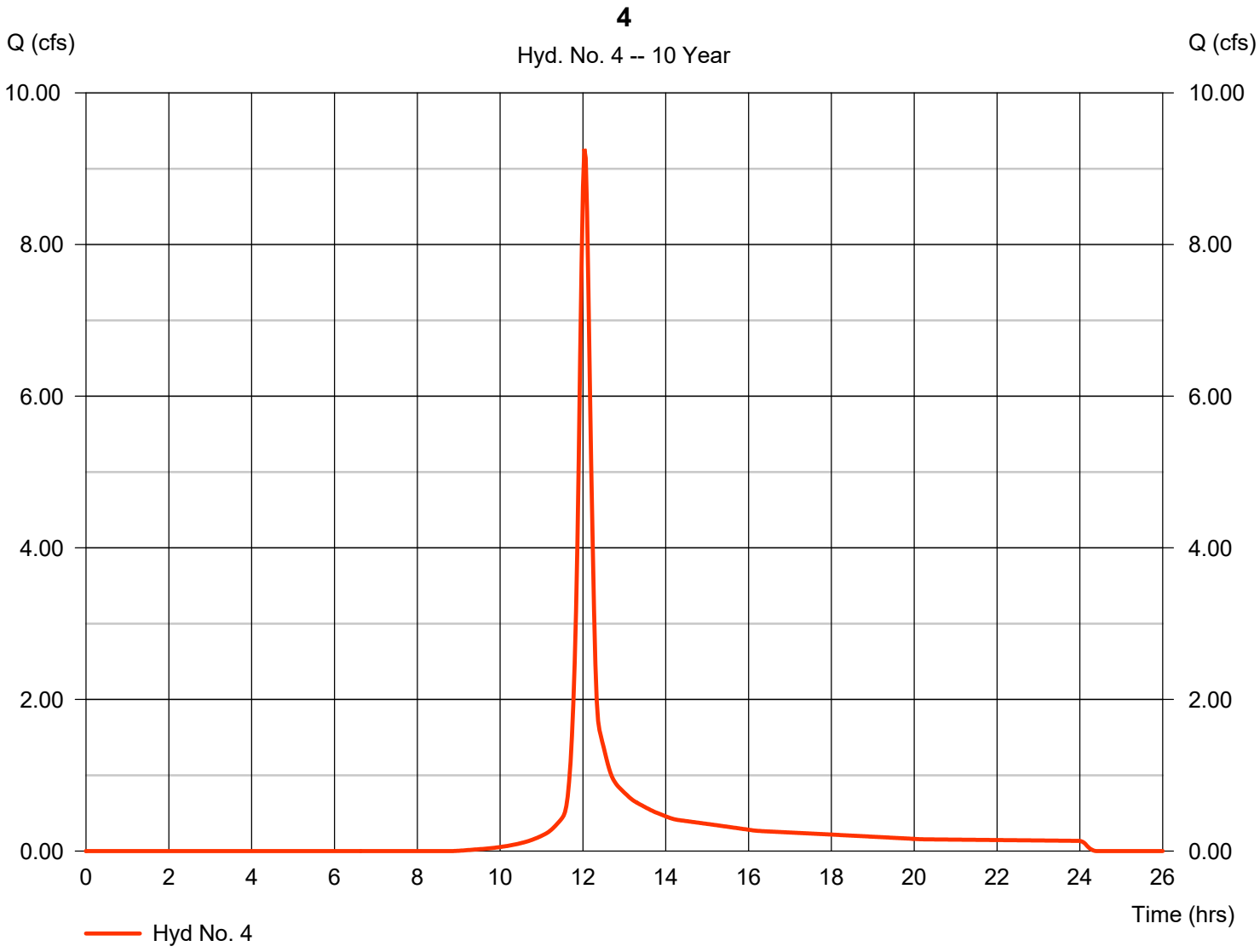


Hydrograph Report

Hyd. No. 4

4

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.261 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	26,040 cuft
Drainage area	=	3.040 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

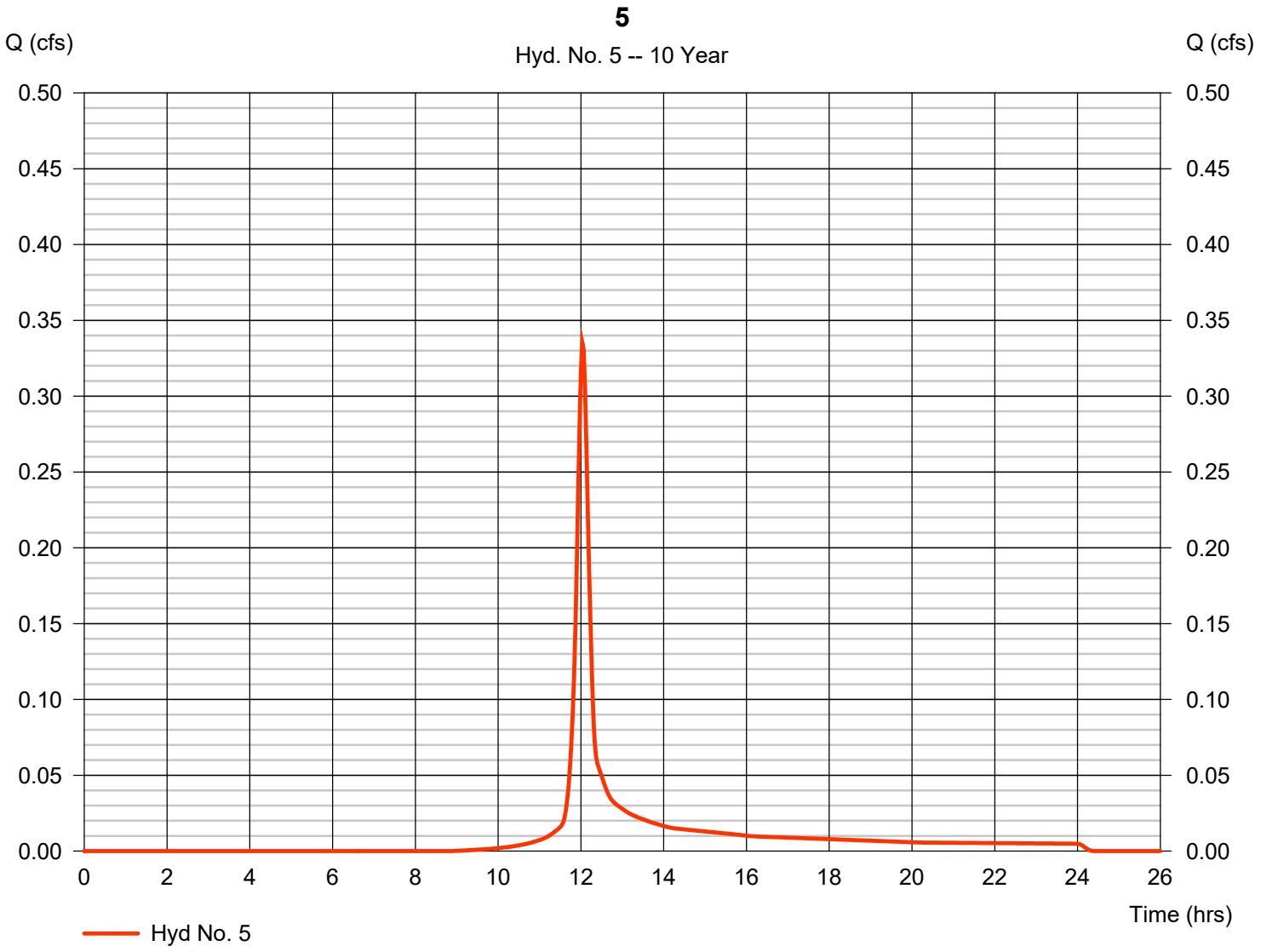


Hydrograph Report

Hyd. No. 5

5

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.335 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	942 cuft
Drainage area	=	0.110 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

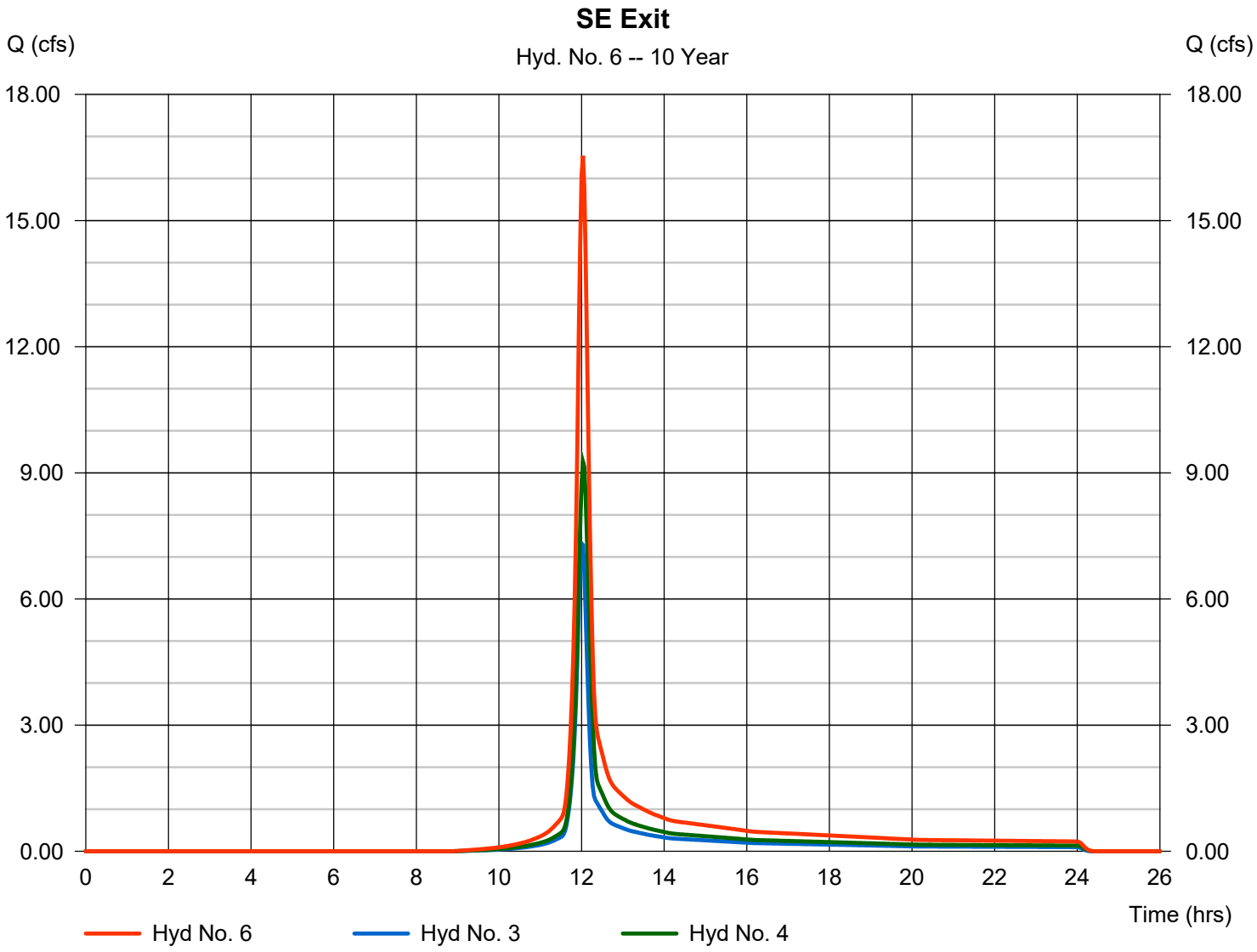


Hydrograph Report

Hyd. No. 6

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	16.54 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	45,066 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	5.140 ac

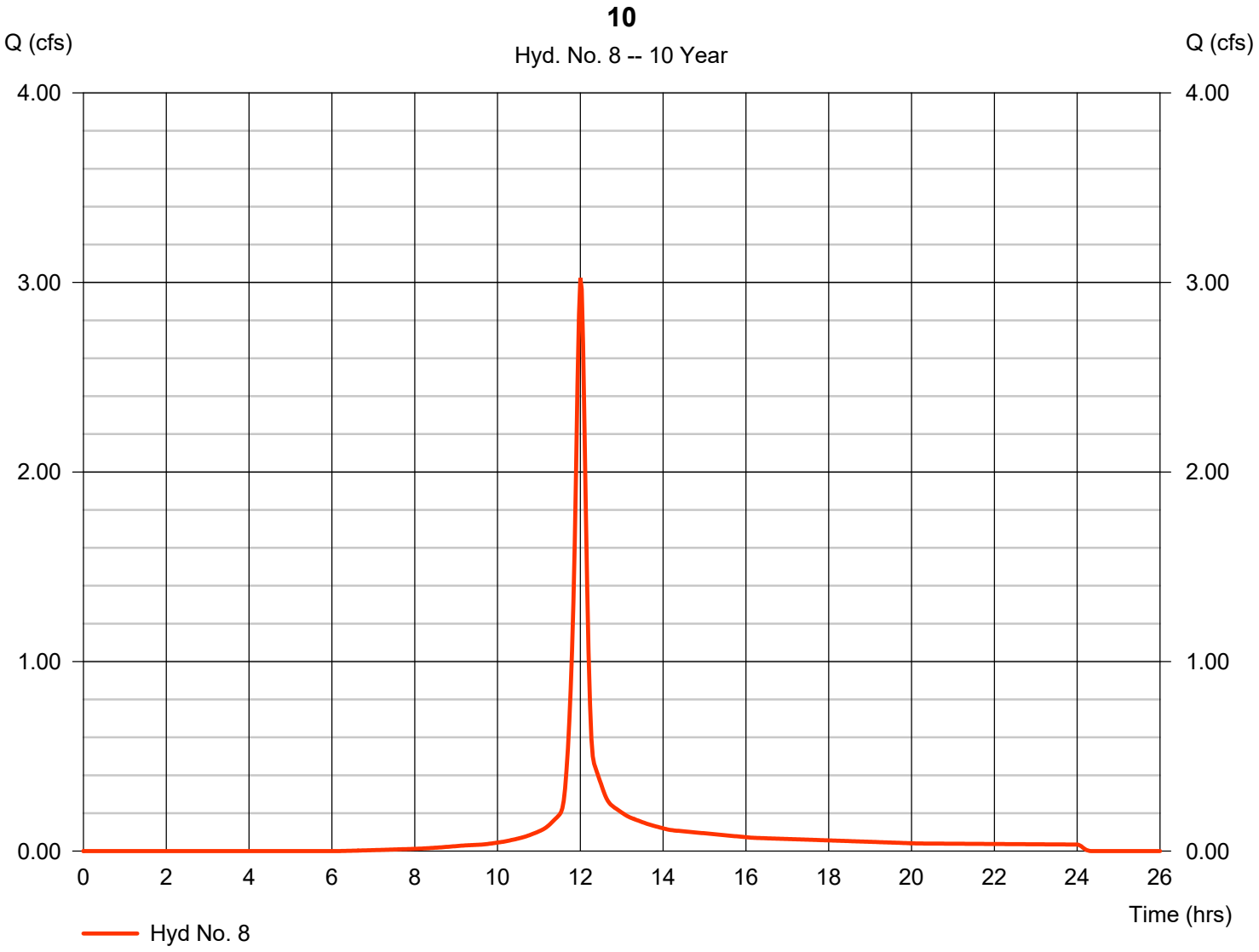


Hydrograph Report

Hyd. No. 8

10

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.023 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	7,901 cuft
Drainage area	=	0.650 ac	Curve number	=	83.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

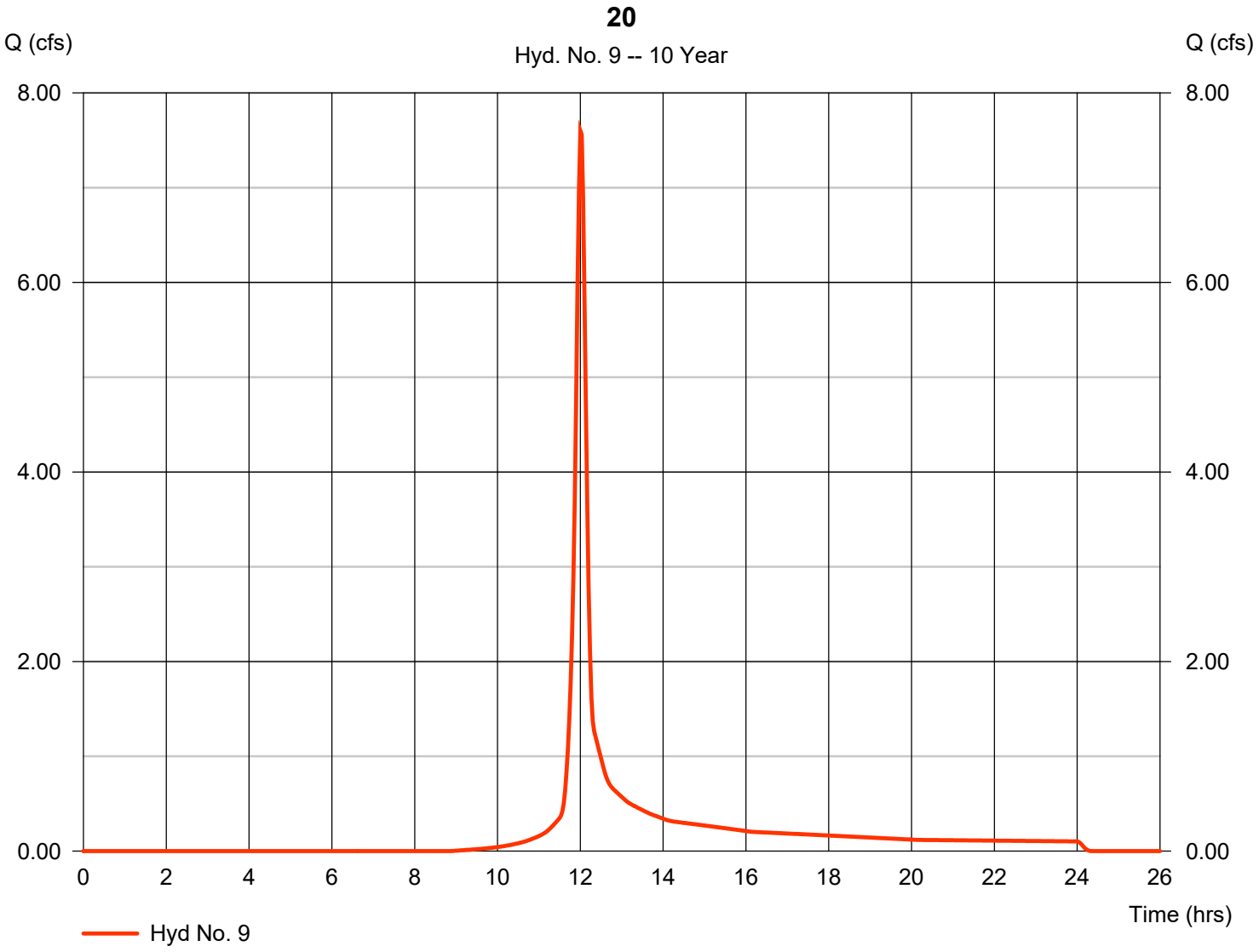


Hydrograph Report

Hyd. No. 9

20

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.600 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	19,751 cuft
Drainage area	=	2.180 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	12.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

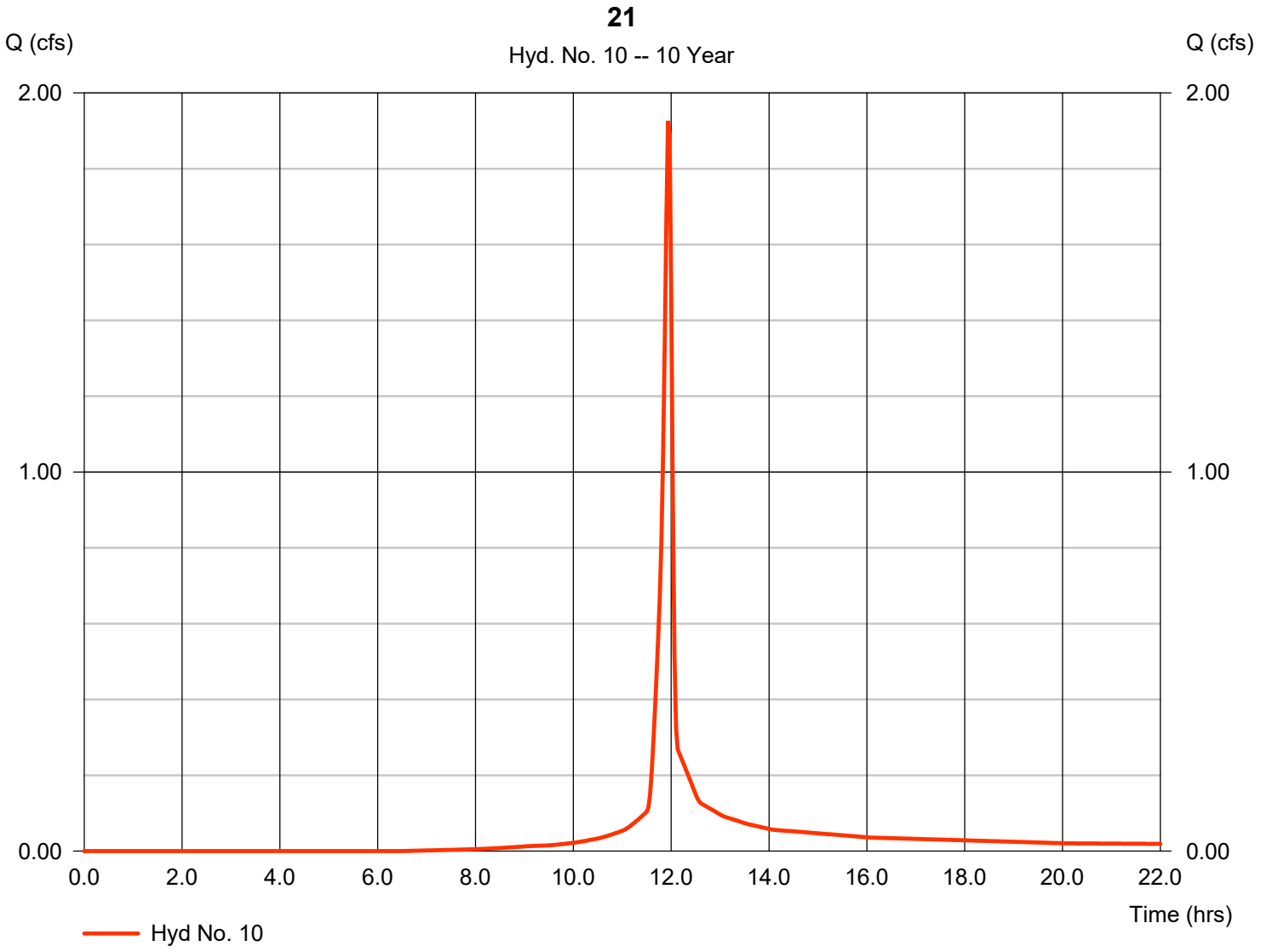


Hydrograph Report

Hyd. No. 10

21

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.926 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,944 cuft
Drainage area	=	0.370 ac	Curve number	=	81.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

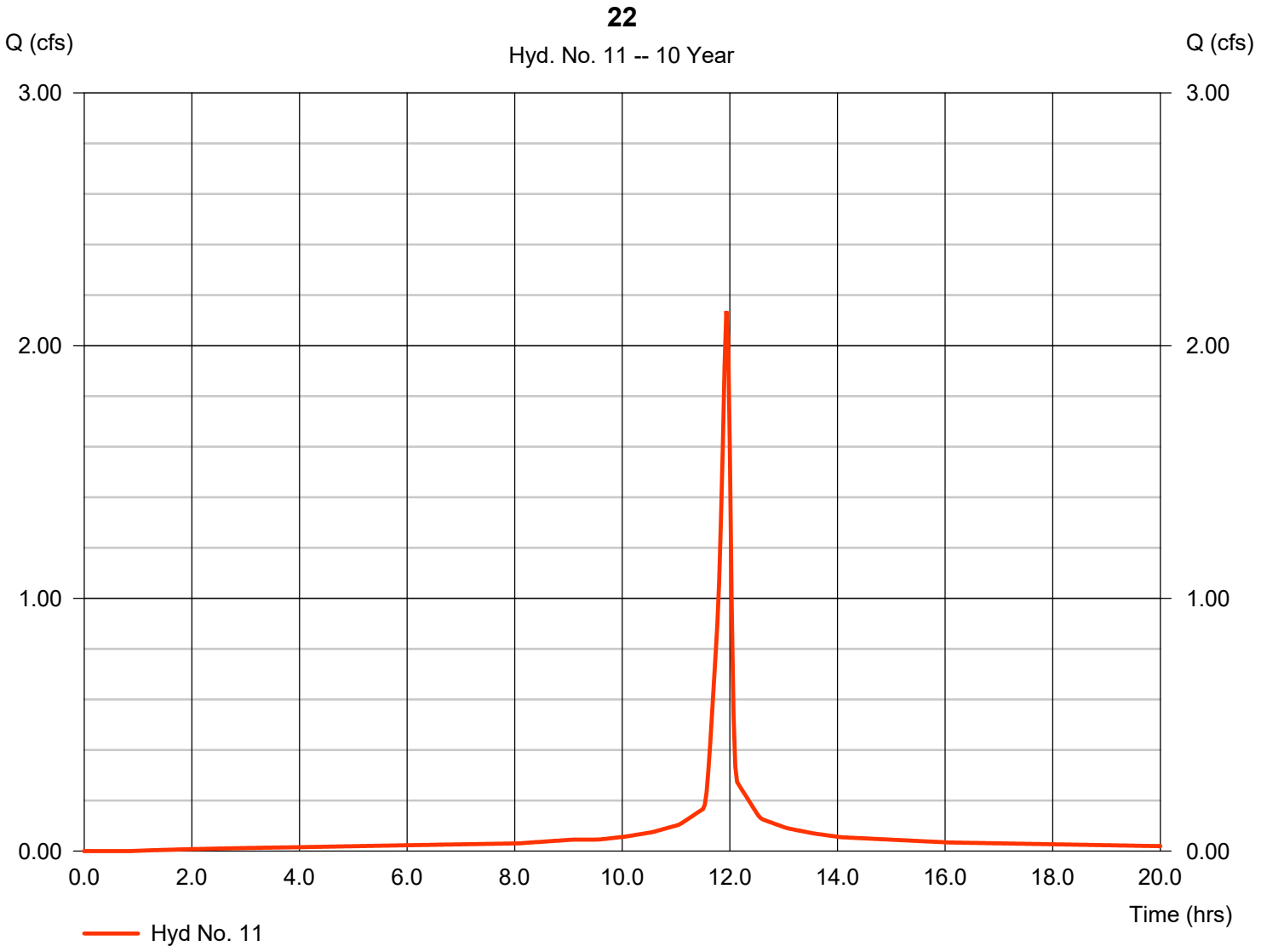


Hydrograph Report

Hyd. No. 11

22

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.136 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	5,099 cuft
Drainage area	=	0.310 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

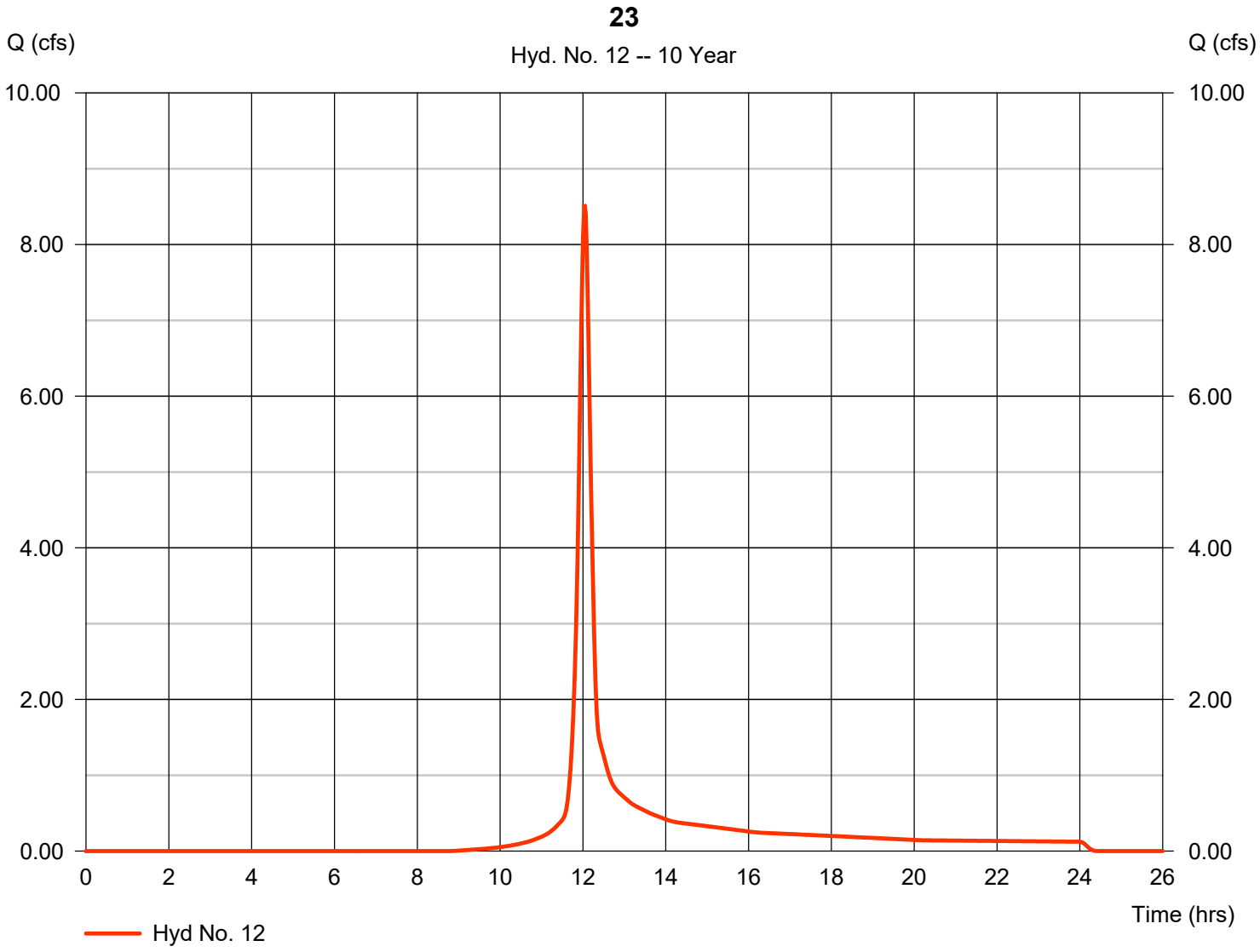


Hydrograph Report

Hyd. No. 12

23

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.532 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	23,979 cuft
Drainage area	=	2.770 ac	Curve number	=	74.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

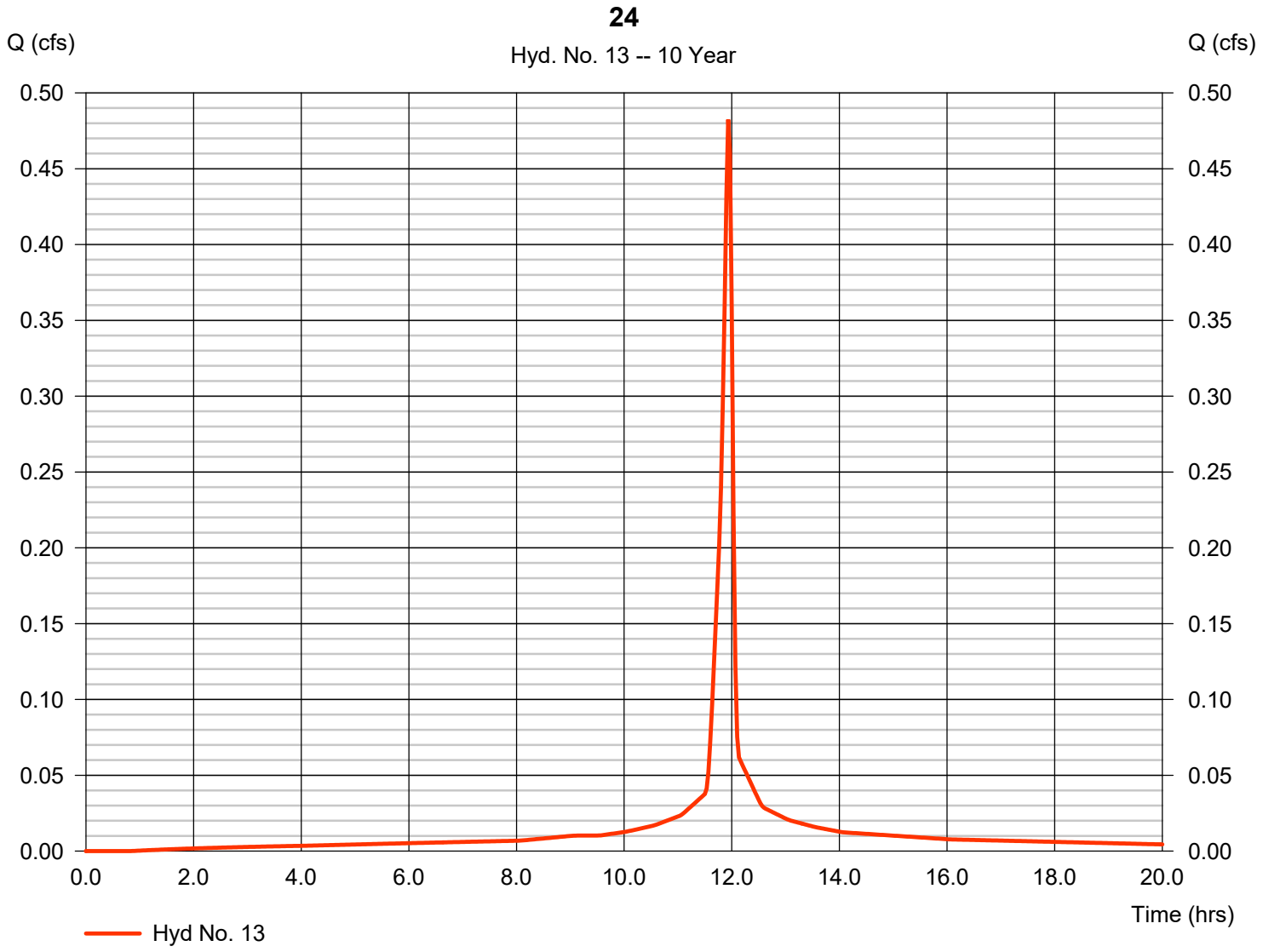


Hydrograph Report

Hyd. No. 13

24

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.482 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,151 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

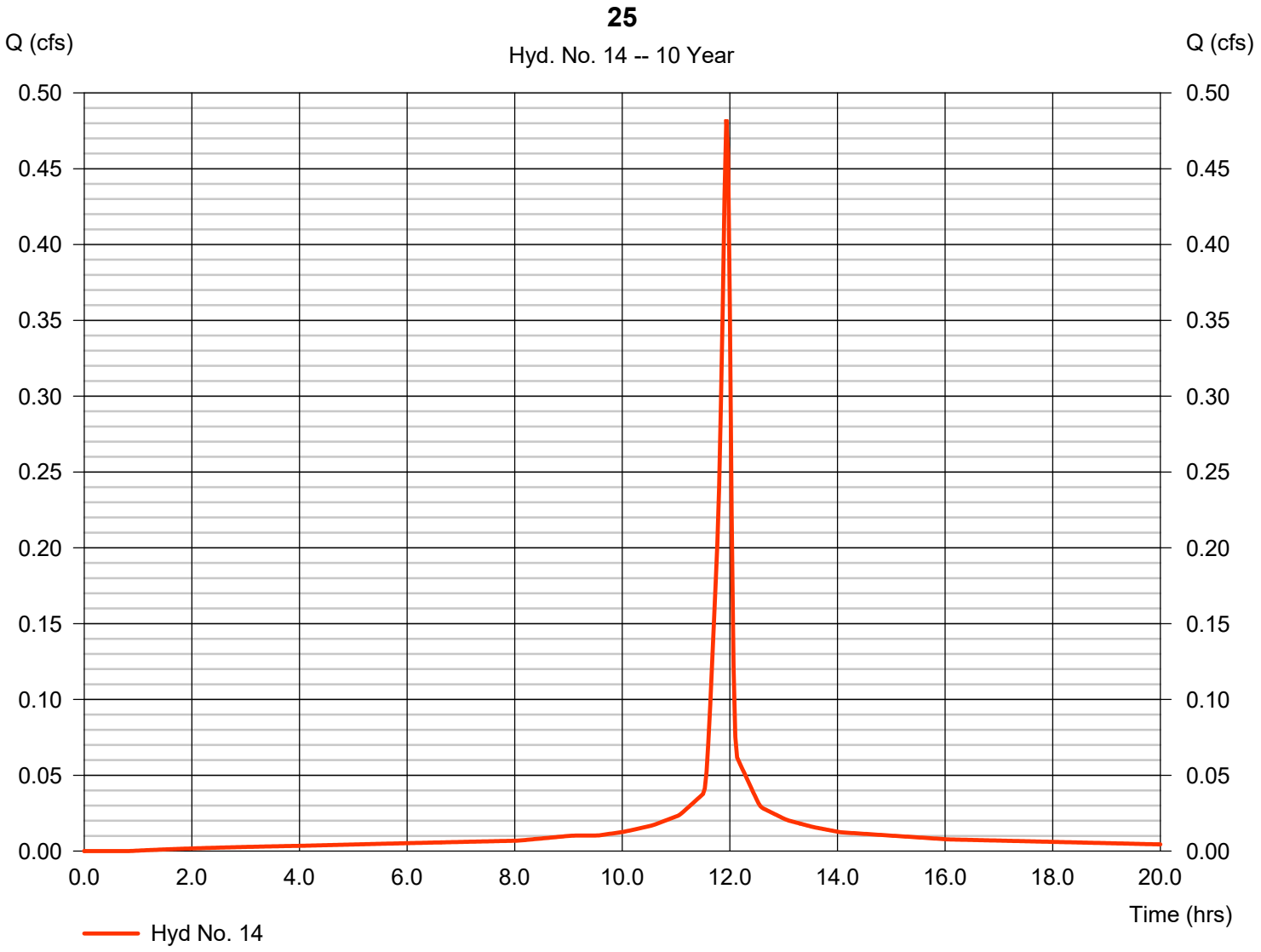


Hydrograph Report

Hyd. No. 14

25

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.482 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,151 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

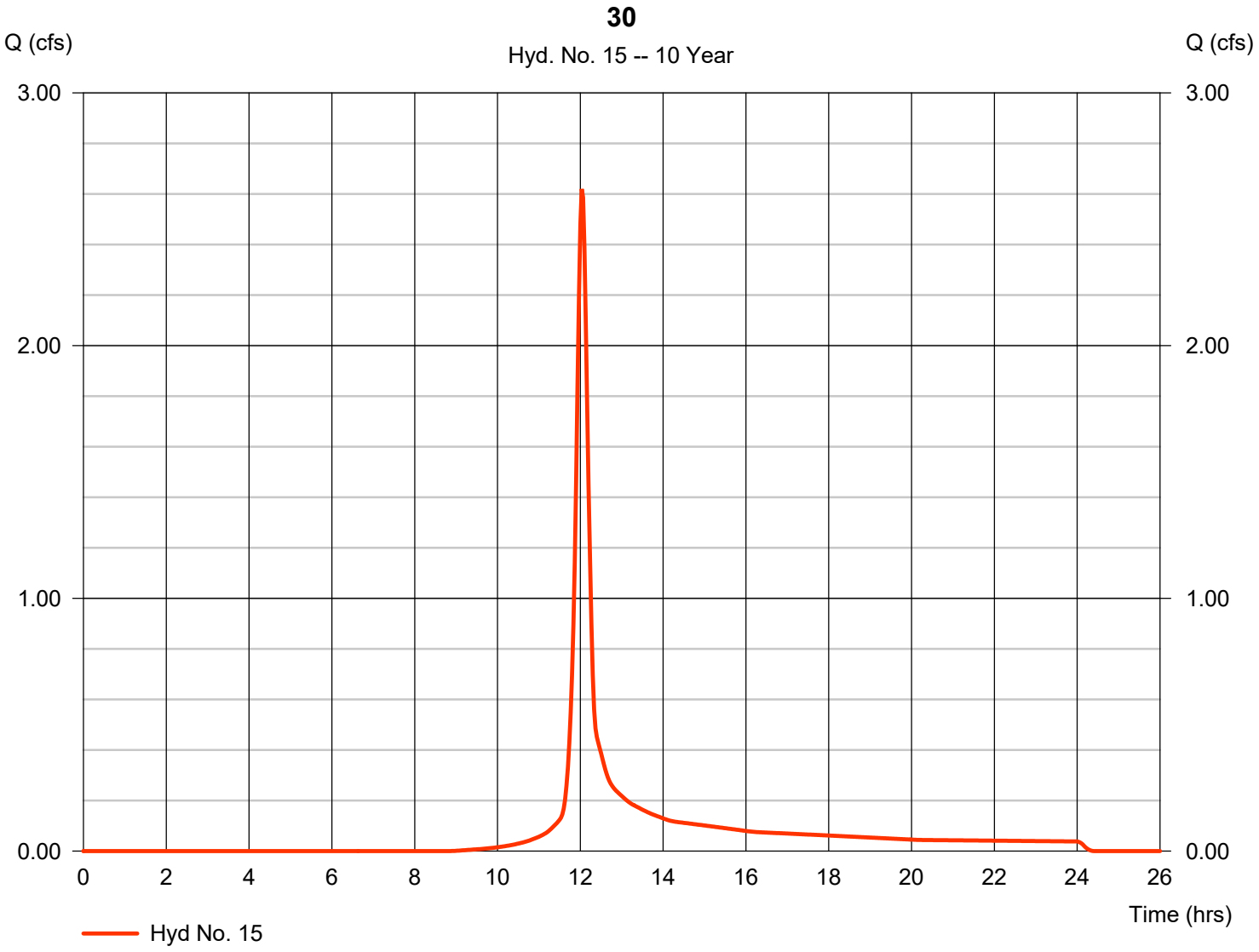


Hydrograph Report

Hyd. No. 15

30

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.620 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	7,367 cuft
Drainage area	=	0.860 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

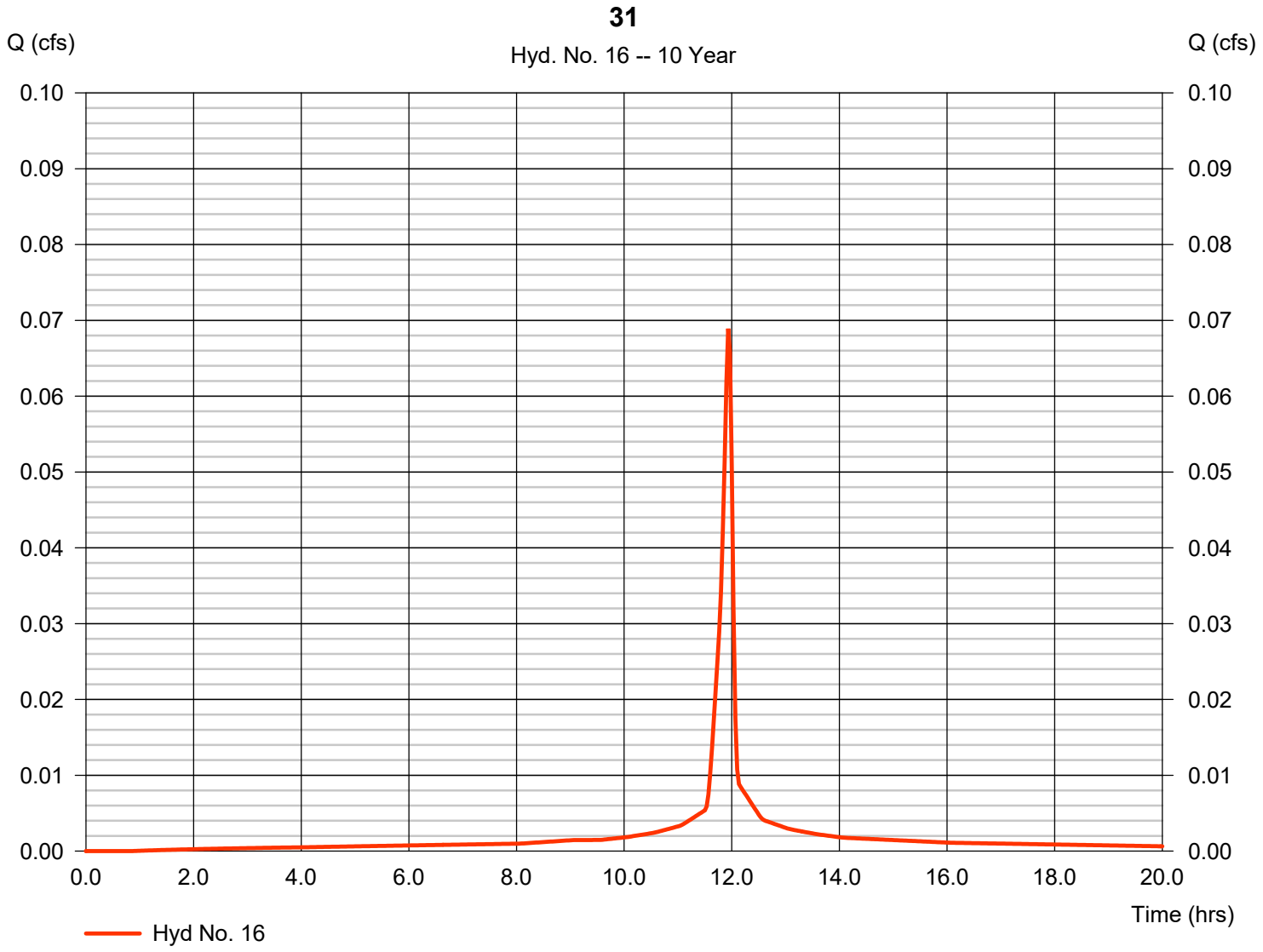


Hydrograph Report

Hyd. No. 16

31

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.069 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	164 cuft
Drainage area	=	0.010 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

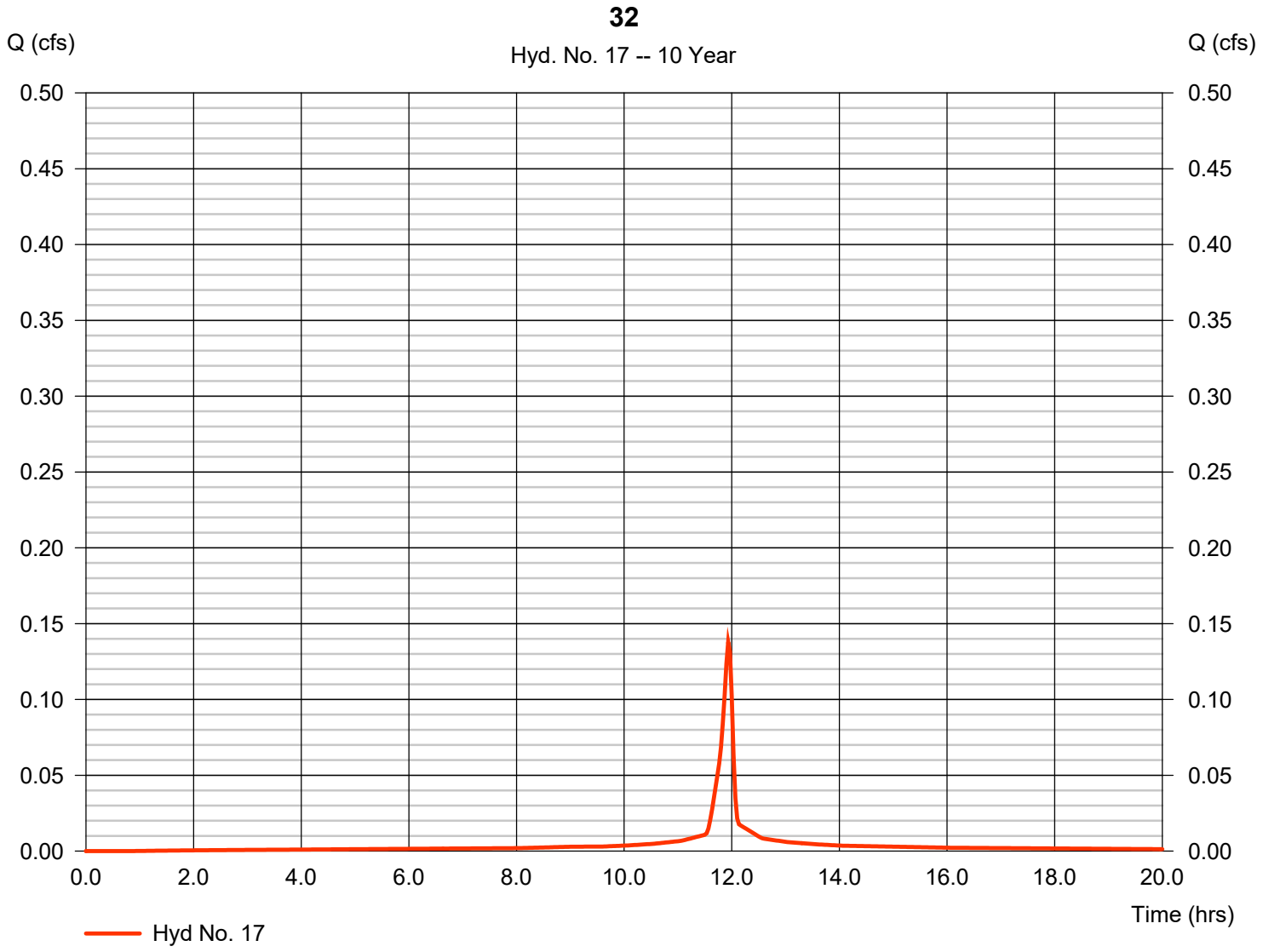


Hydrograph Report

Hyd. No. 17

32

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.138 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	329 cuft
Drainage area	=	0.020 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

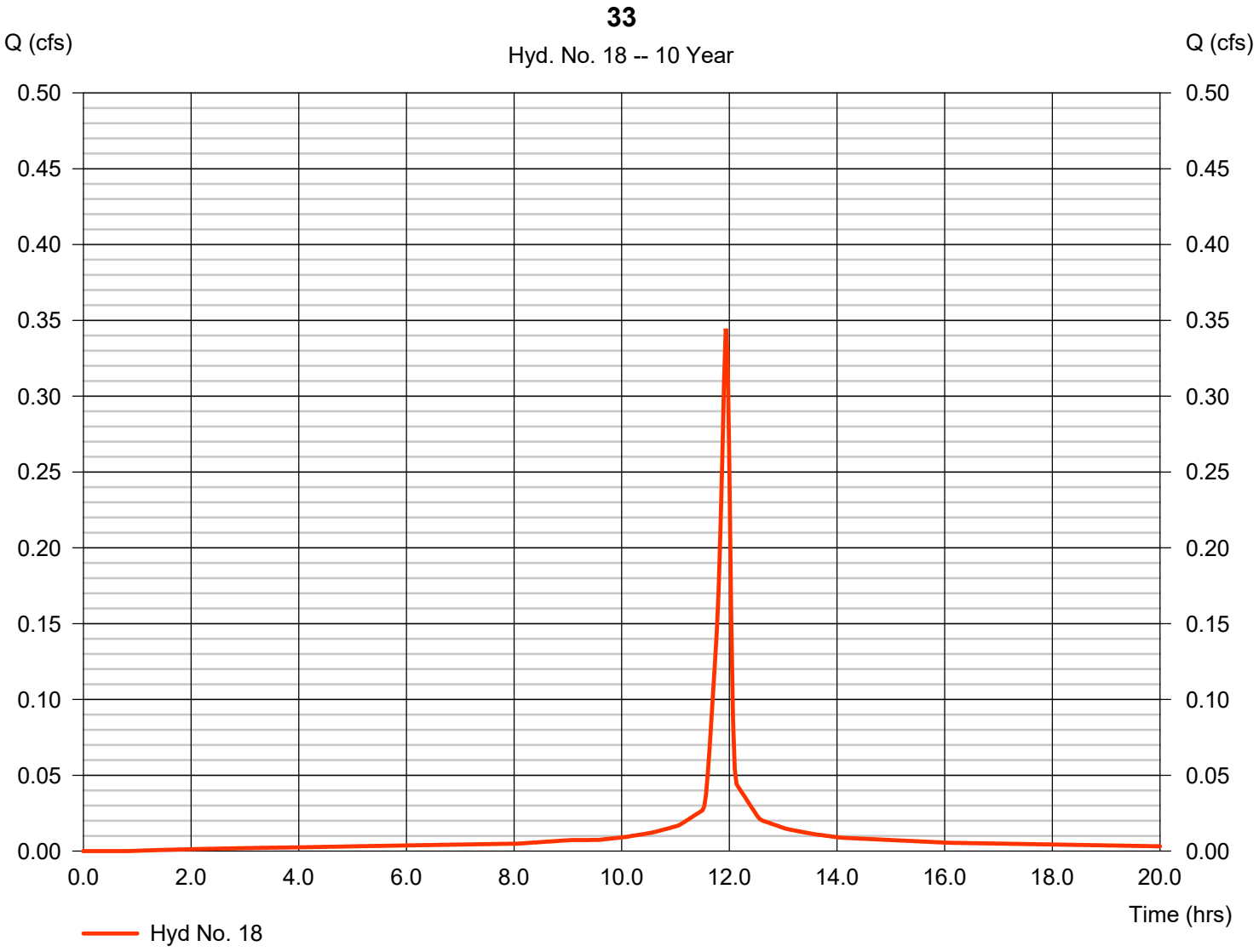


Hydrograph Report

Hyd. No. 18

33

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.345 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	822 cuft
Drainage area	=	0.050 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

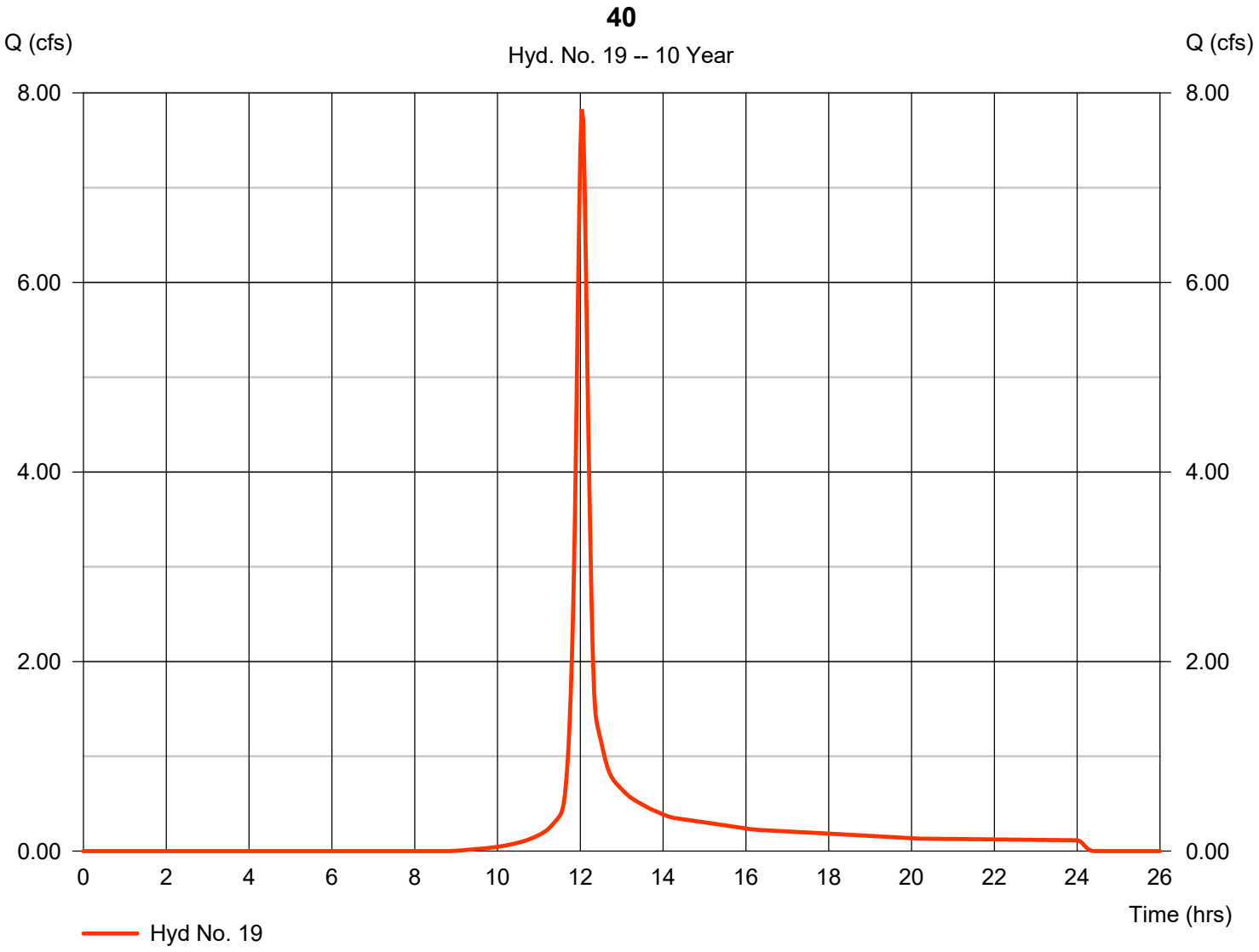


Hydrograph Report

Hyd. No. 19

40

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.829 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	22,014 cuft
Drainage area	=	2.570 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

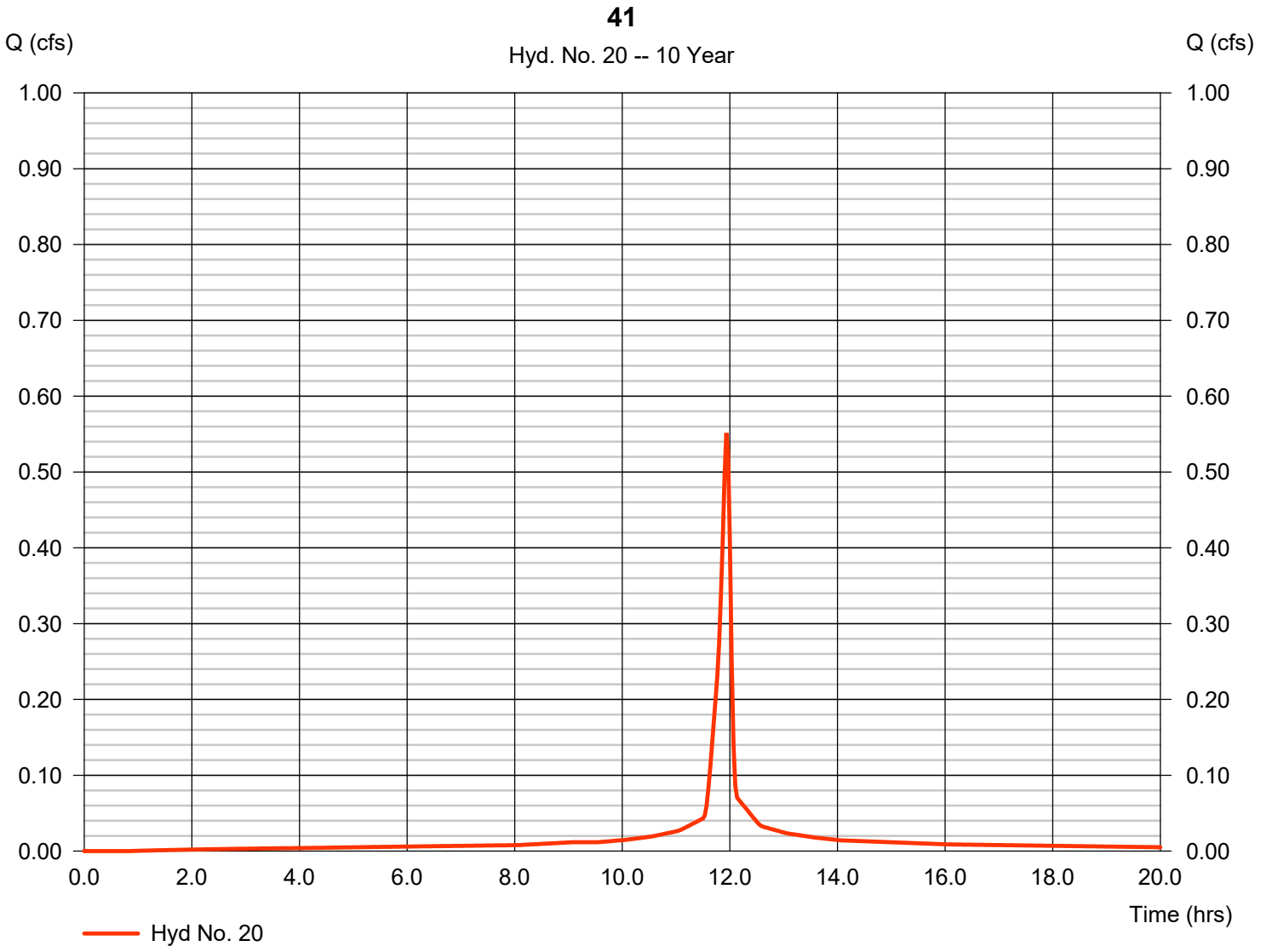


Hydrograph Report

Hyd. No. 20

41

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.551 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,316 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

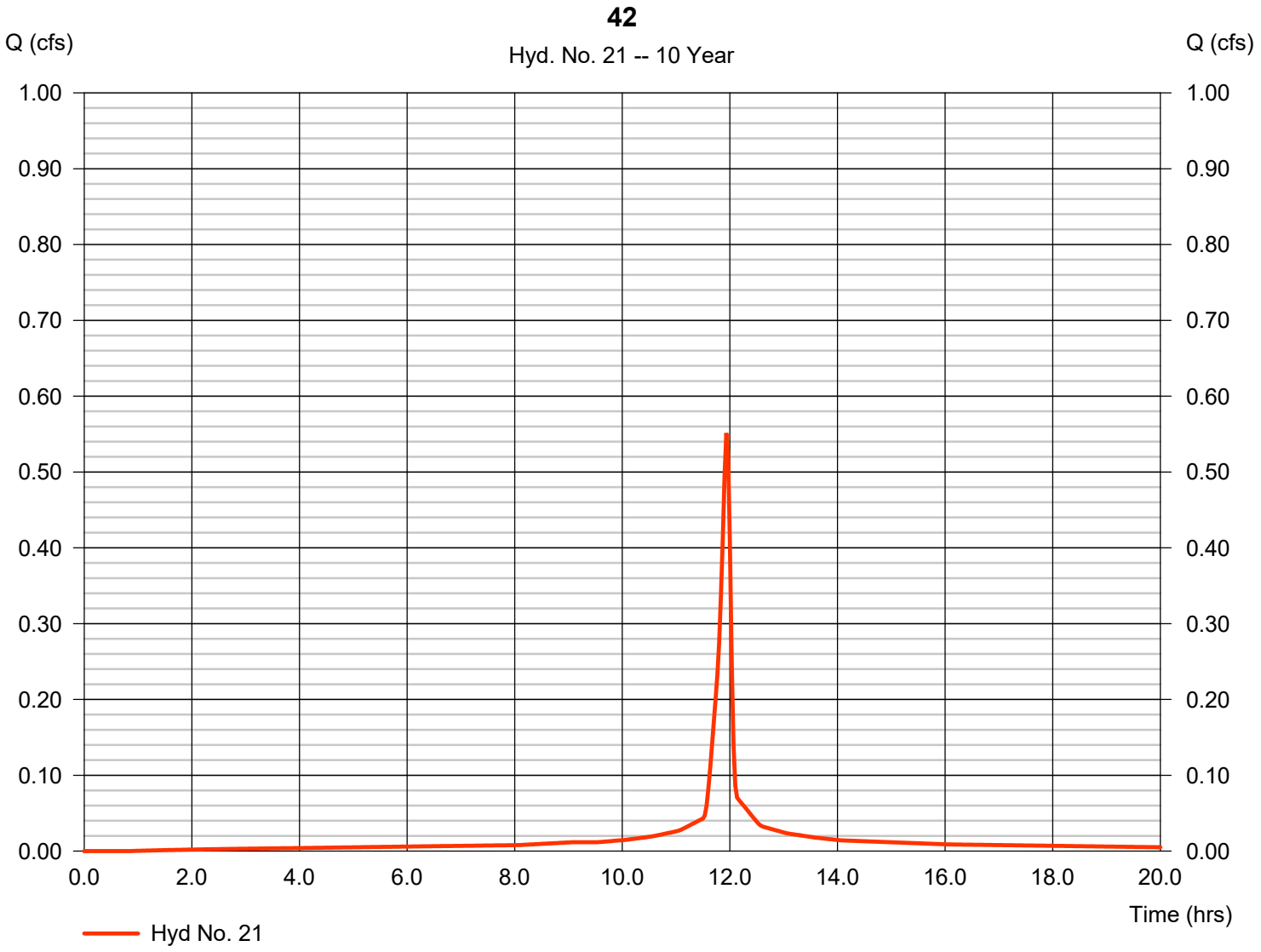


Hydrograph Report

Hyd. No. 21

42

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.551 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,316 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

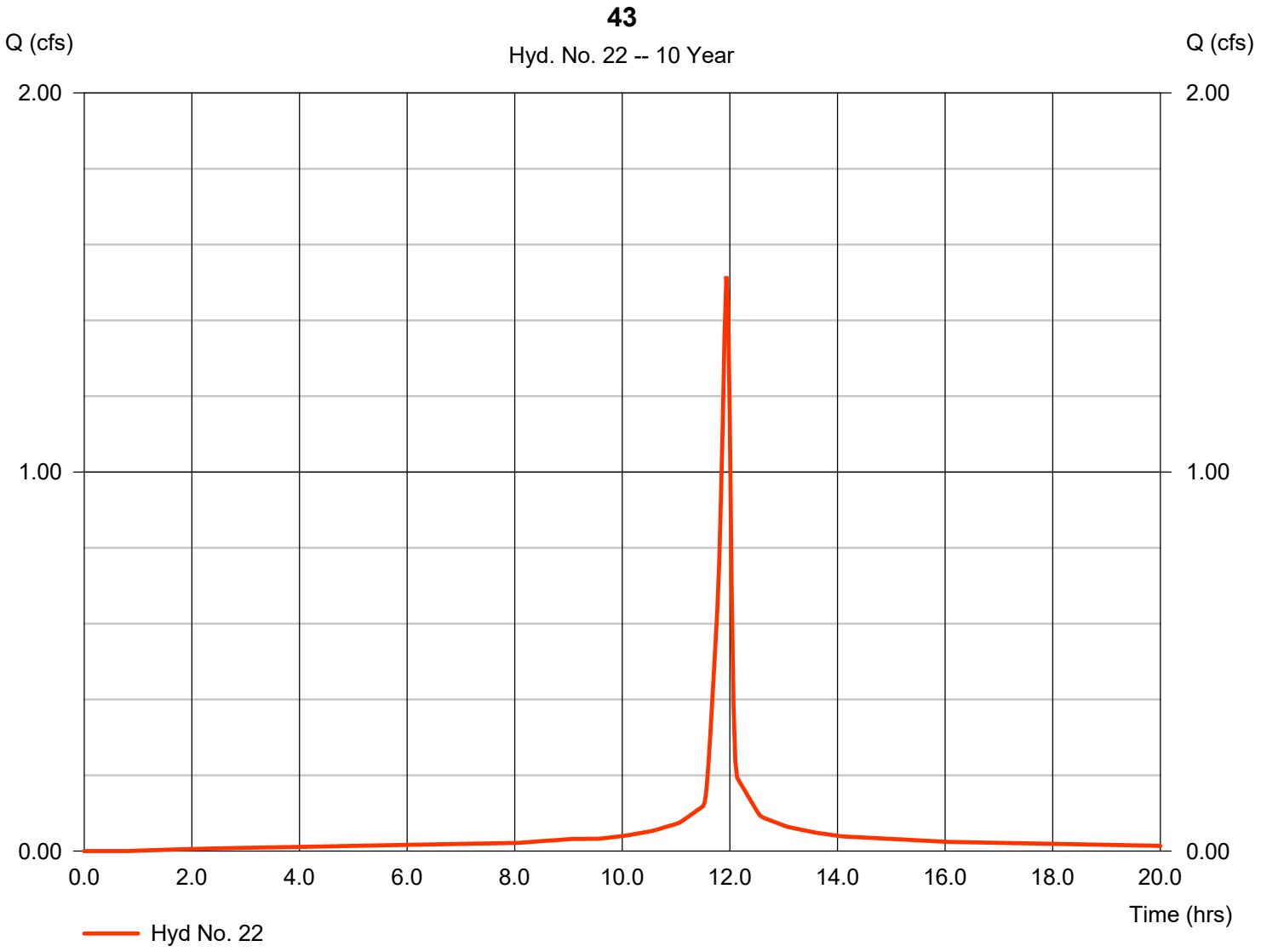


Hydrograph Report

Hyd. No. 22

43

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.516 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,618 cuft
Drainage area	=	0.220 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

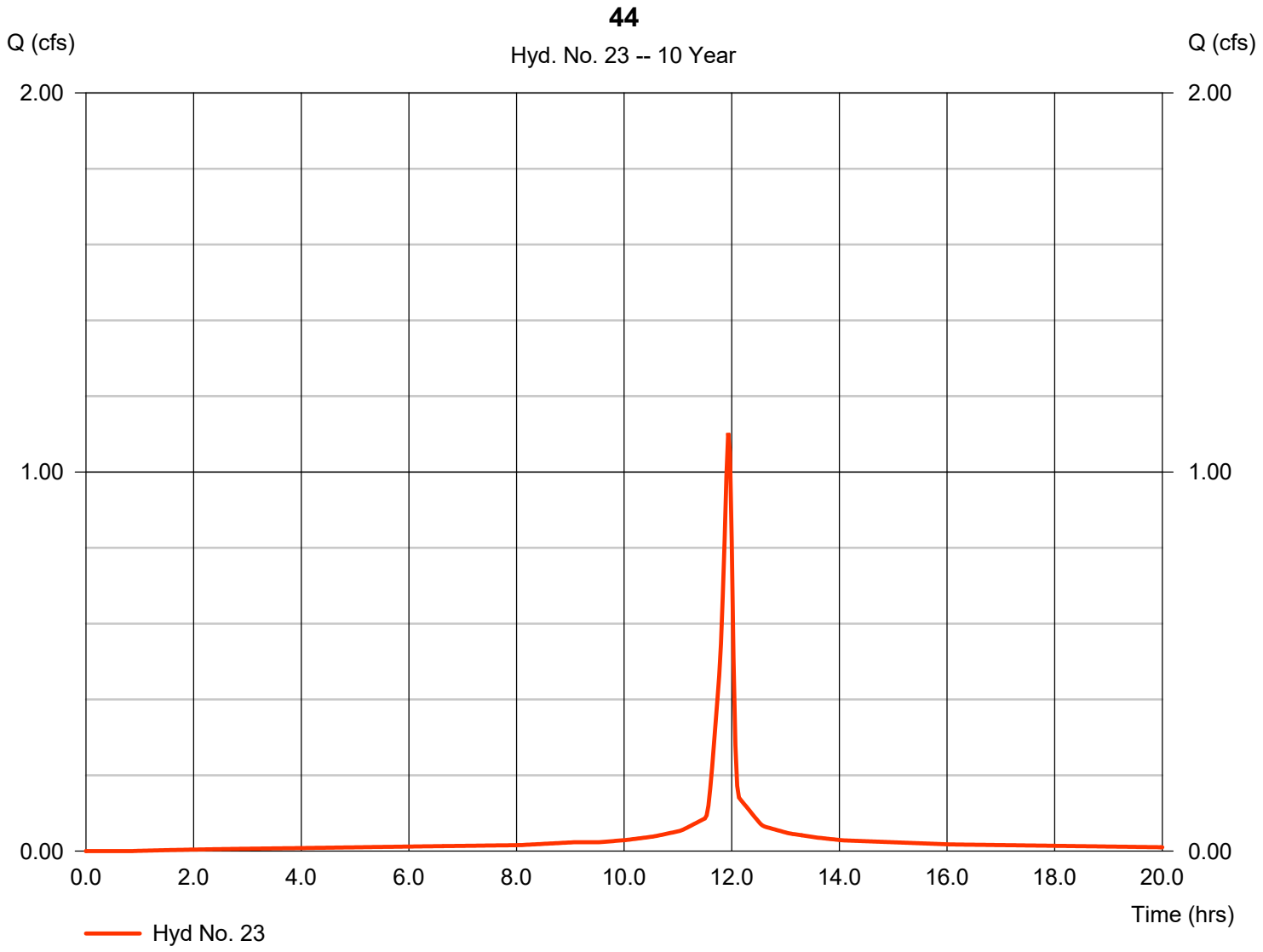


Hydrograph Report

Hyd. No. 23

44

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.103 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,632 cuft
Drainage area	=	0.160 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

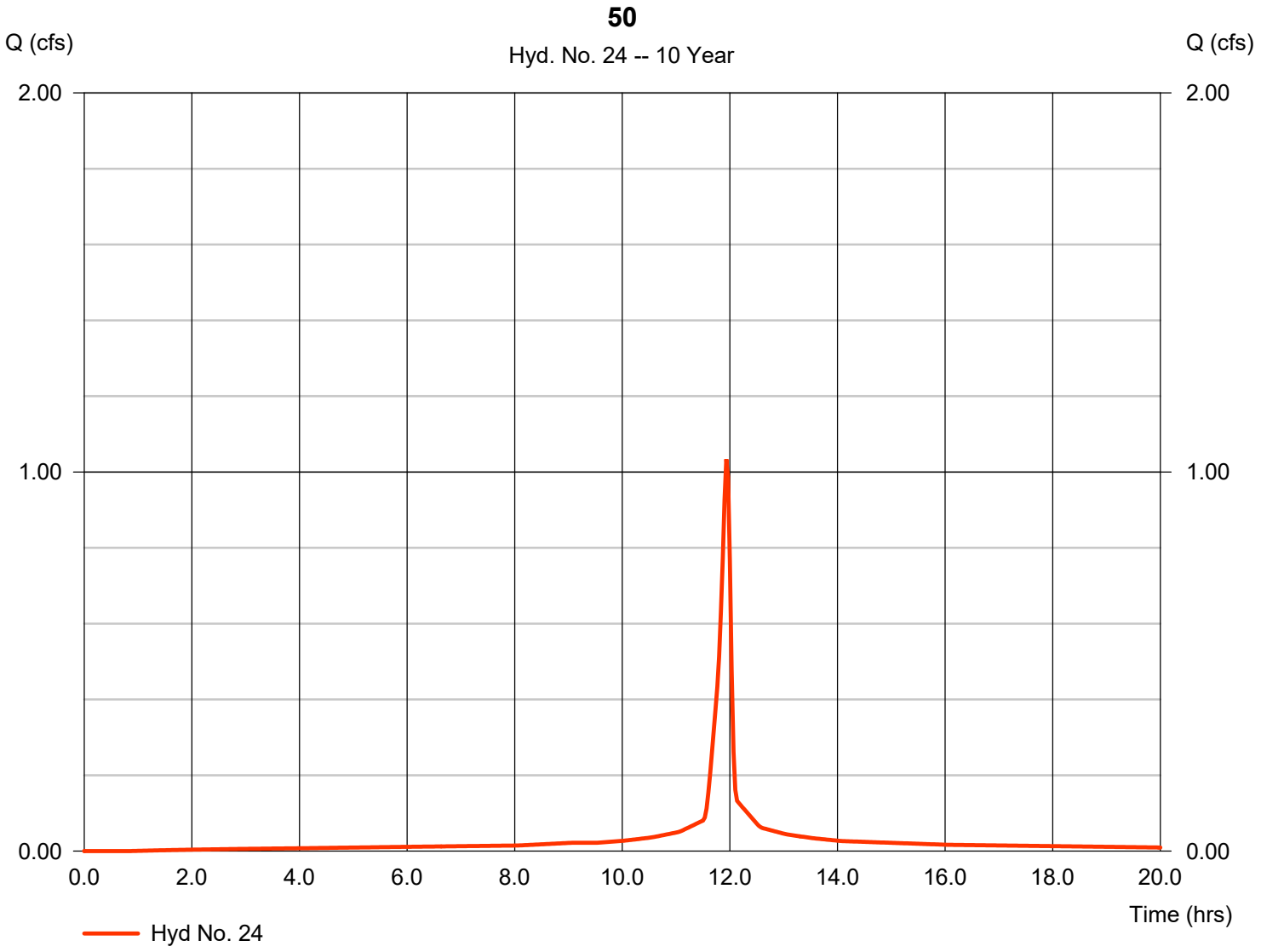


Hydrograph Report

Hyd. No. 24

50

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.034 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,467 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

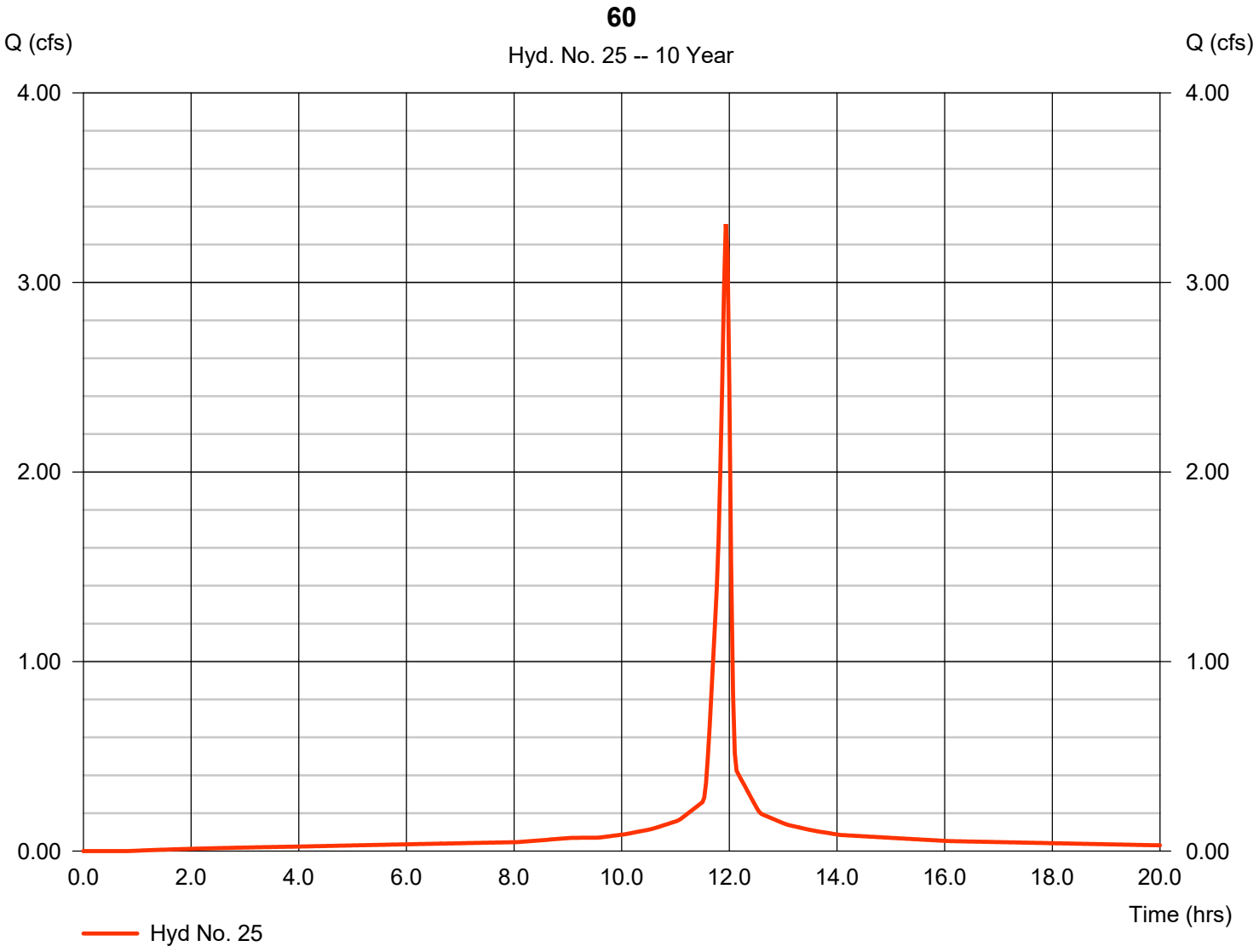


Hydrograph Report

Hyd. No. 25

60

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.308 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	7,895 cuft
Drainage area	=	0.480 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

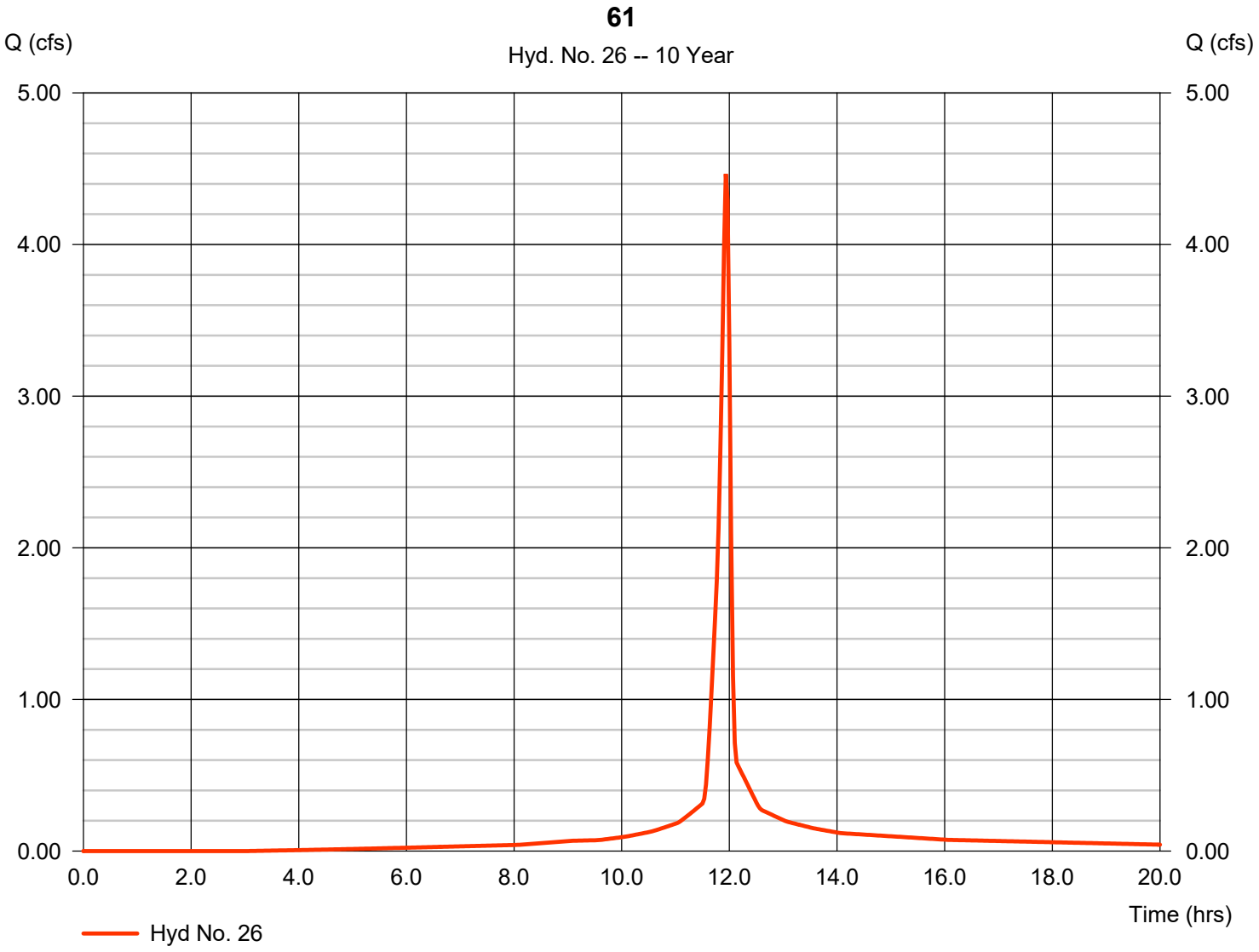


Hydrograph Report

Hyd. No. 26

61

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.466 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	9,788 cuft
Drainage area	=	0.690 ac	Curve number	=	92.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

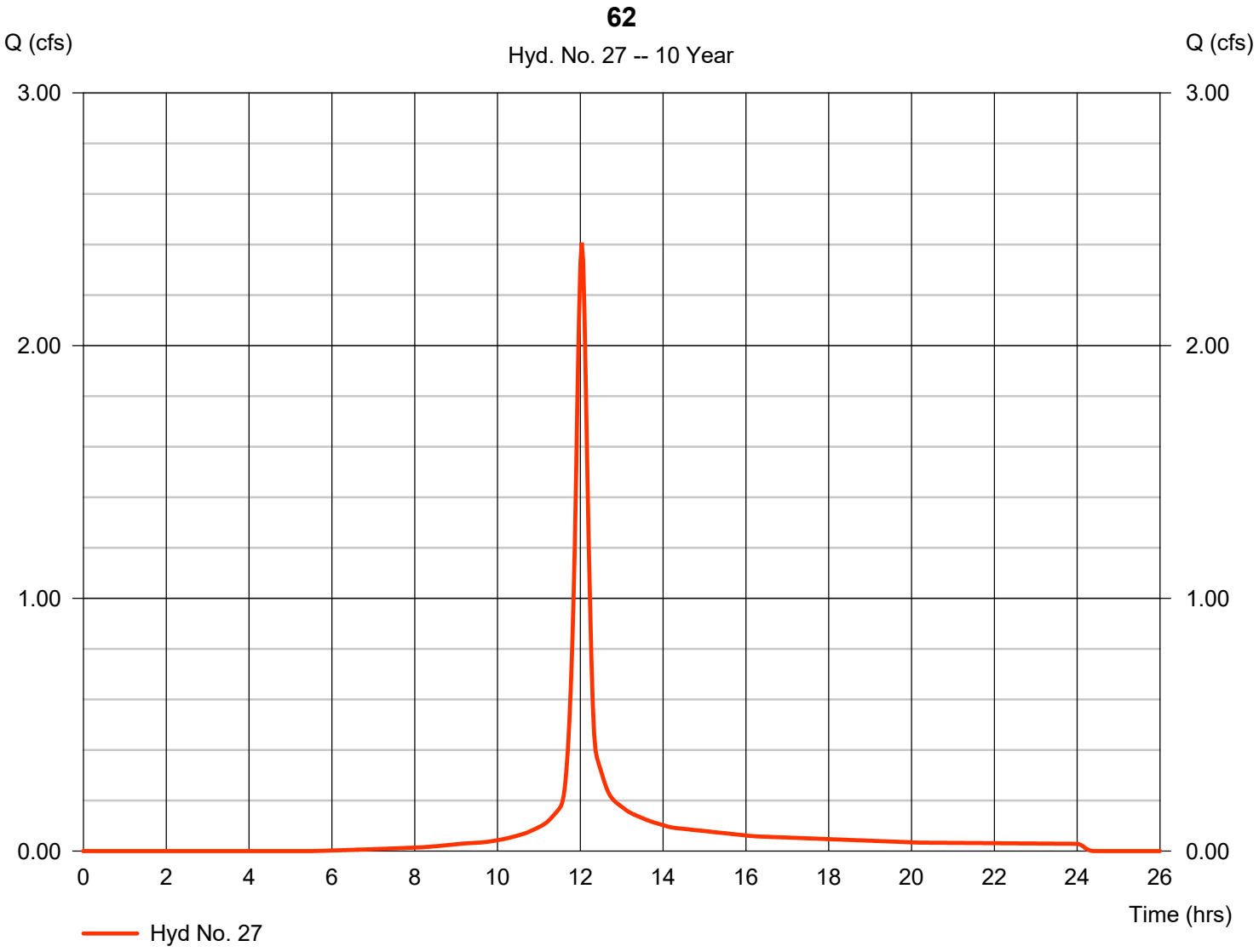


Hydrograph Report

Hyd. No. 27

62

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.408 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	6,843 cuft
Drainage area	=	0.560 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

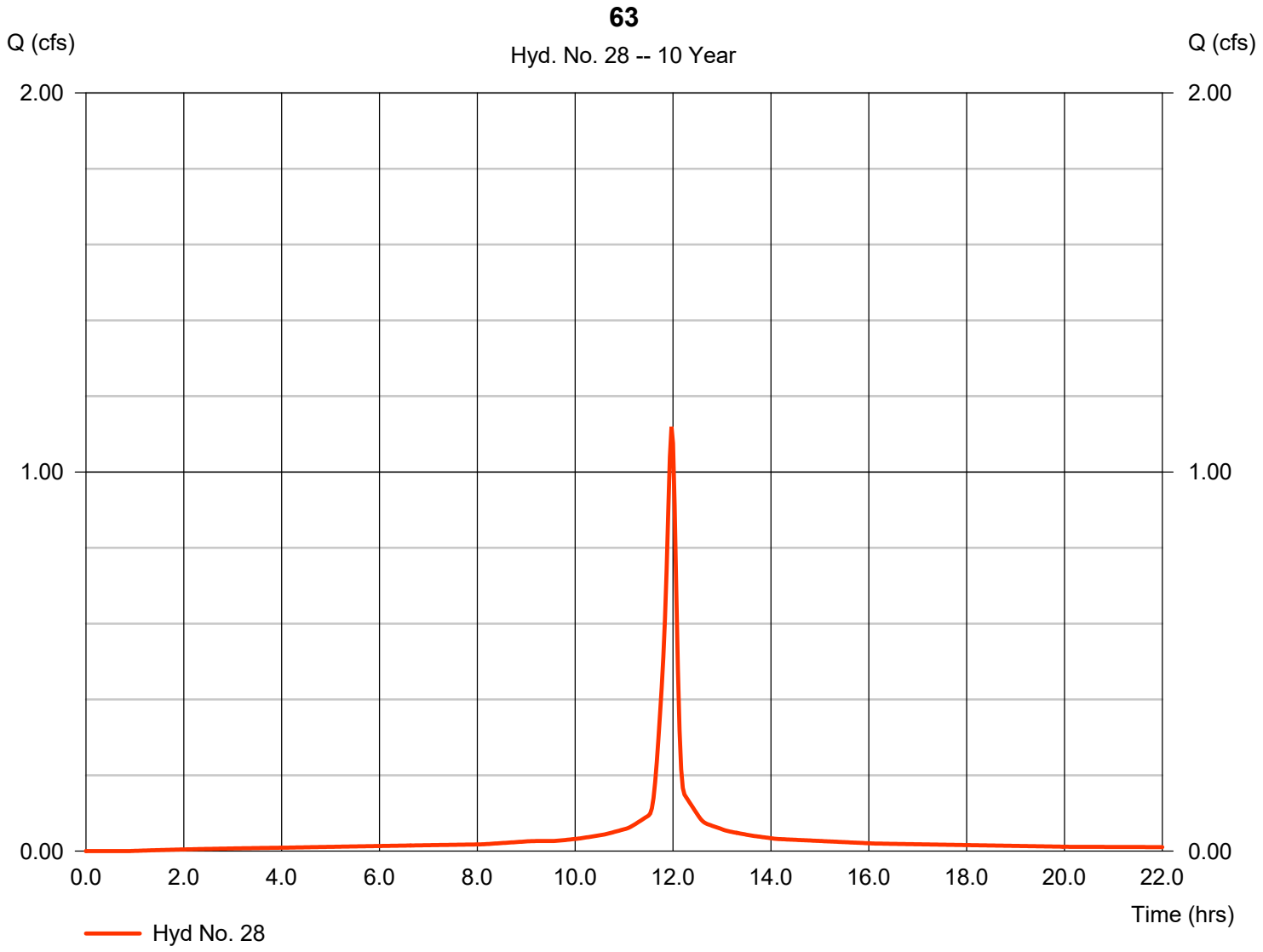


Hydrograph Report

Hyd. No. 28

63

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.119 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	2,982 cuft
Drainage area	=	0.170 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

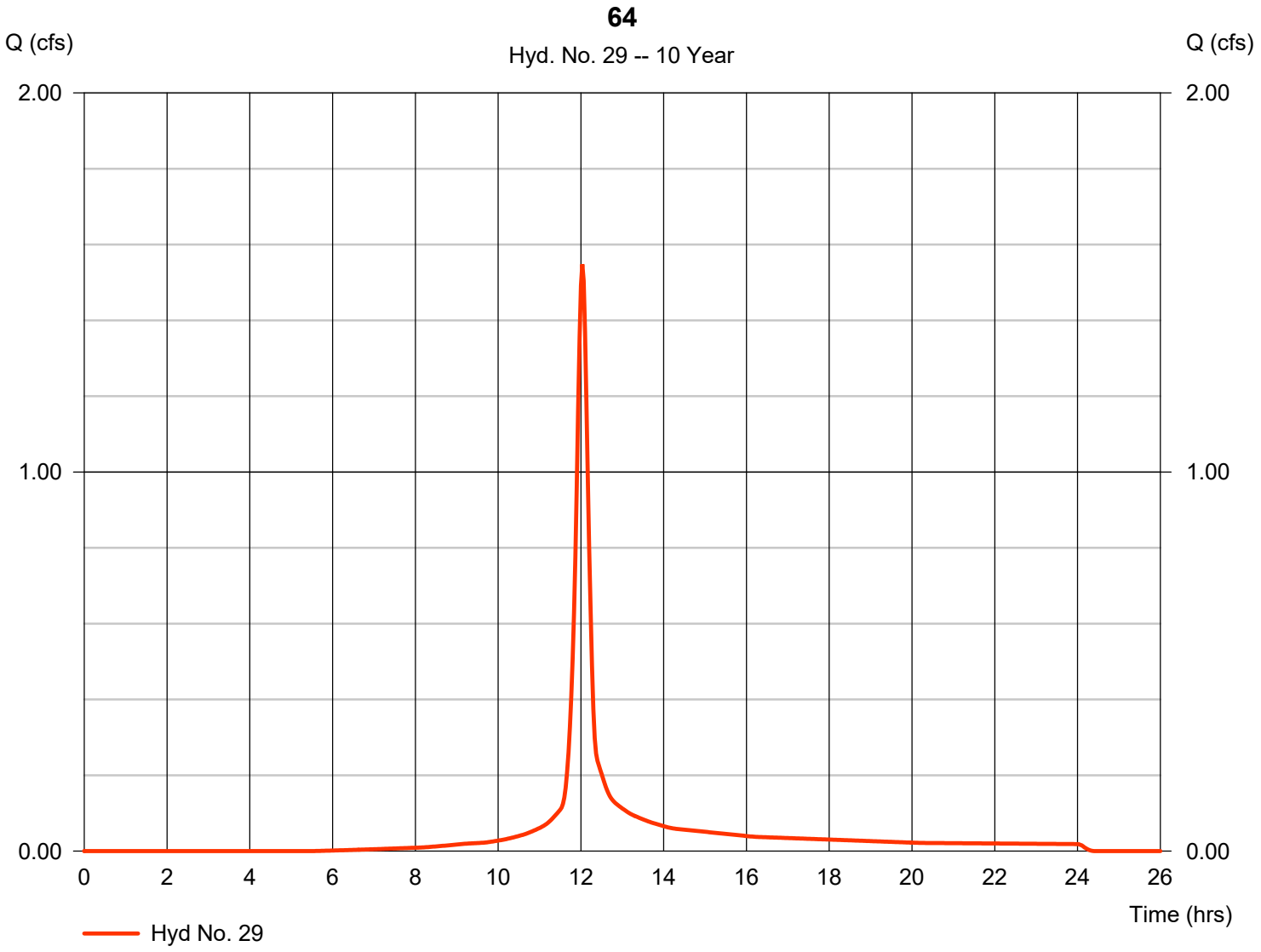


Hydrograph Report

Hyd. No. 29

64

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.548 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	4,399 cuft
Drainage area	=	0.360 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

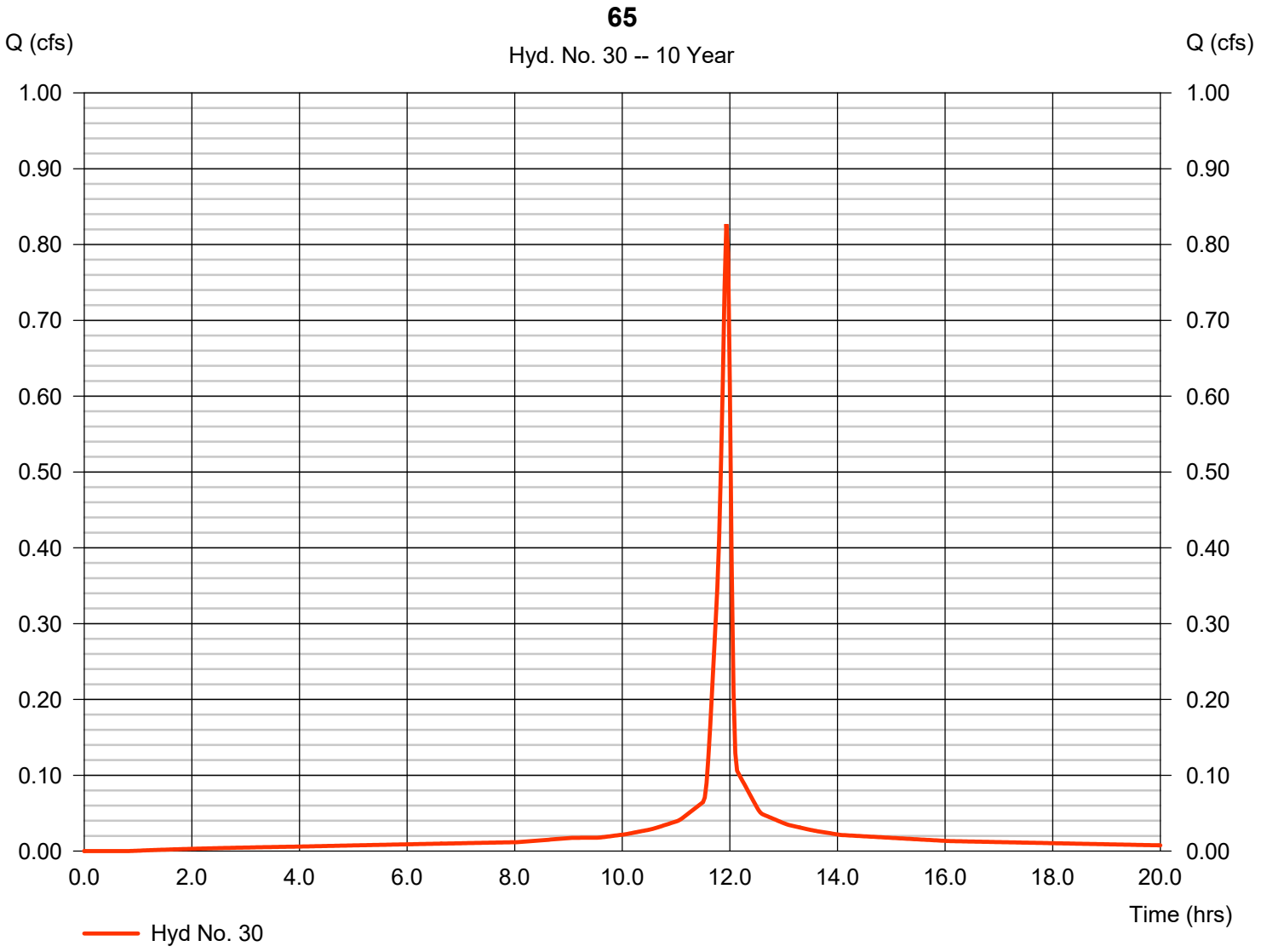


Hydrograph Report

Hyd. No. 30

65

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.827 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,974 cuft
Drainage area	=	0.120 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.07 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

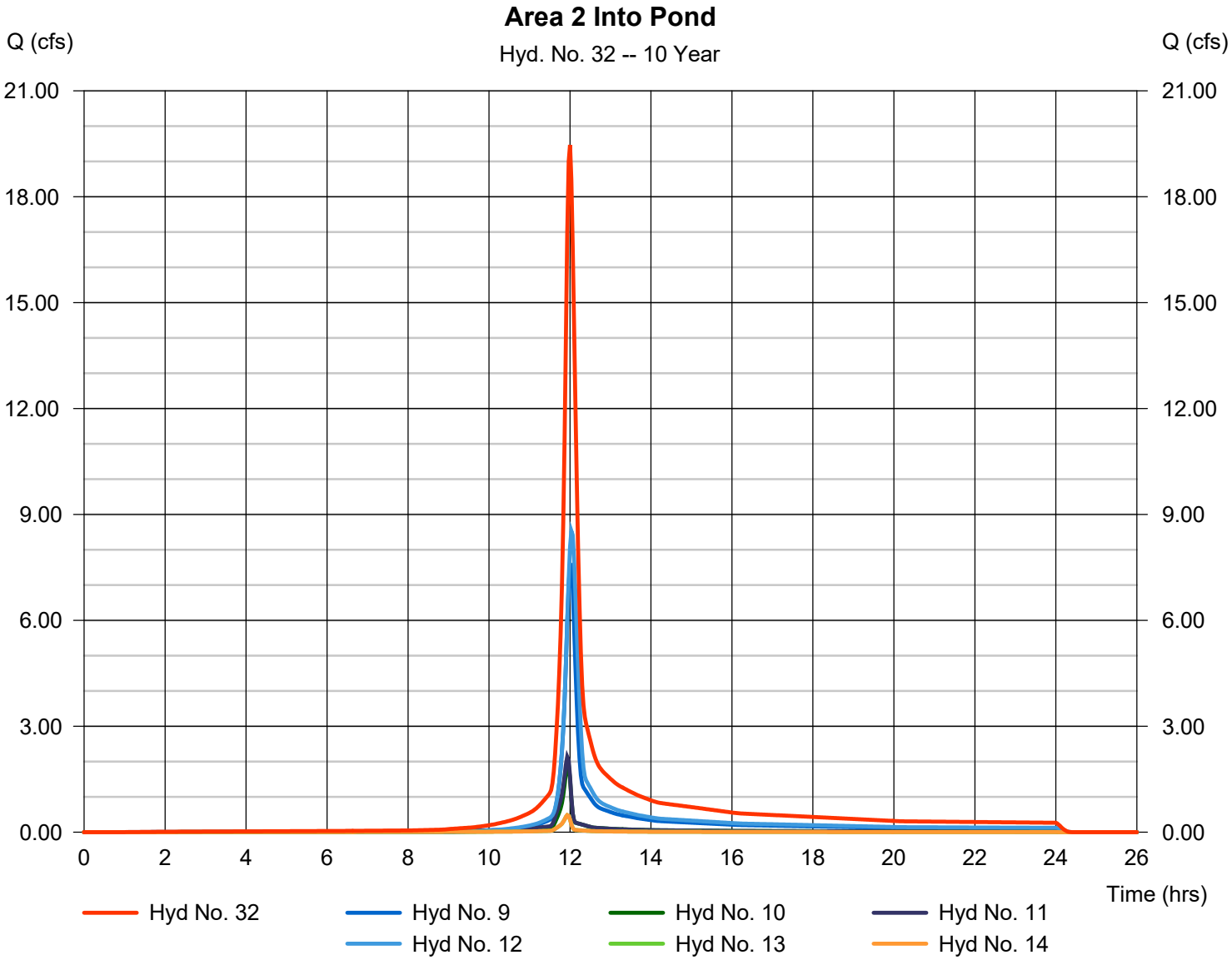


Hydrograph Report

Hyd. No. 32

Area 2 Into Pond

Hydrograph type	=	Combine	Peak discharge	=	19.47 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	55,075 cuft
Inflow hyds.	=	9, 10, 11, 12, 13, 14	Contrib. drain. area	=	5.770 ac

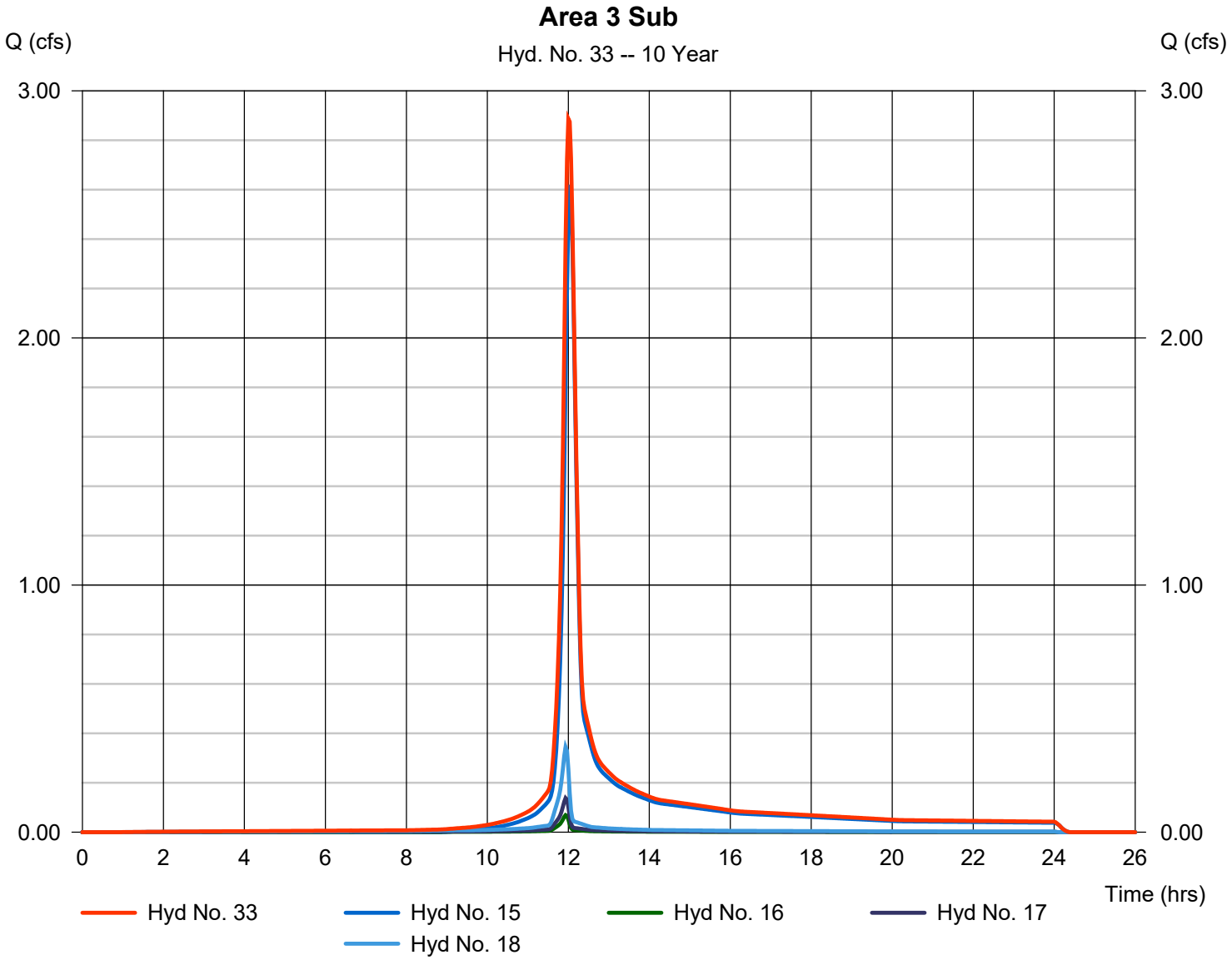


Hydrograph Report

Hyd. No. 33

Area 3 Sub

Hydrograph type	= Combine	Peak discharge	= 2.887 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 8,682 cuft
Inflow hyds.	= 15, 16, 17, 18	Contrib. drain. area	= 0.940 ac

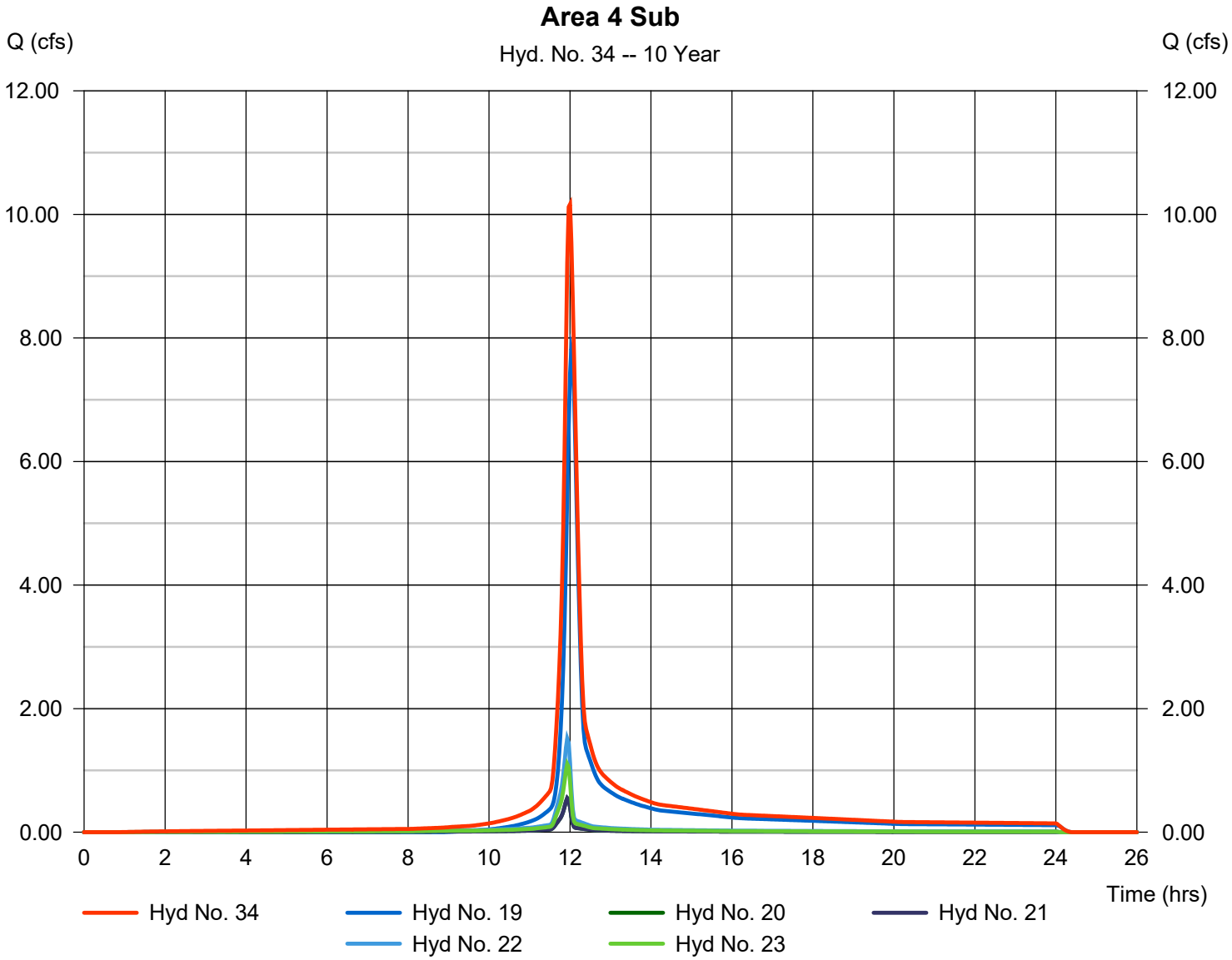


Hydrograph Report

Hyd. No. 34

Area 4 Sub

Hydrograph type	=	Combine	Peak discharge	=	10.16 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	30,896 cuft
Inflow hyds.	=	19, 20, 21, 22, 23	Contrib. drain. area	=	3.110 ac

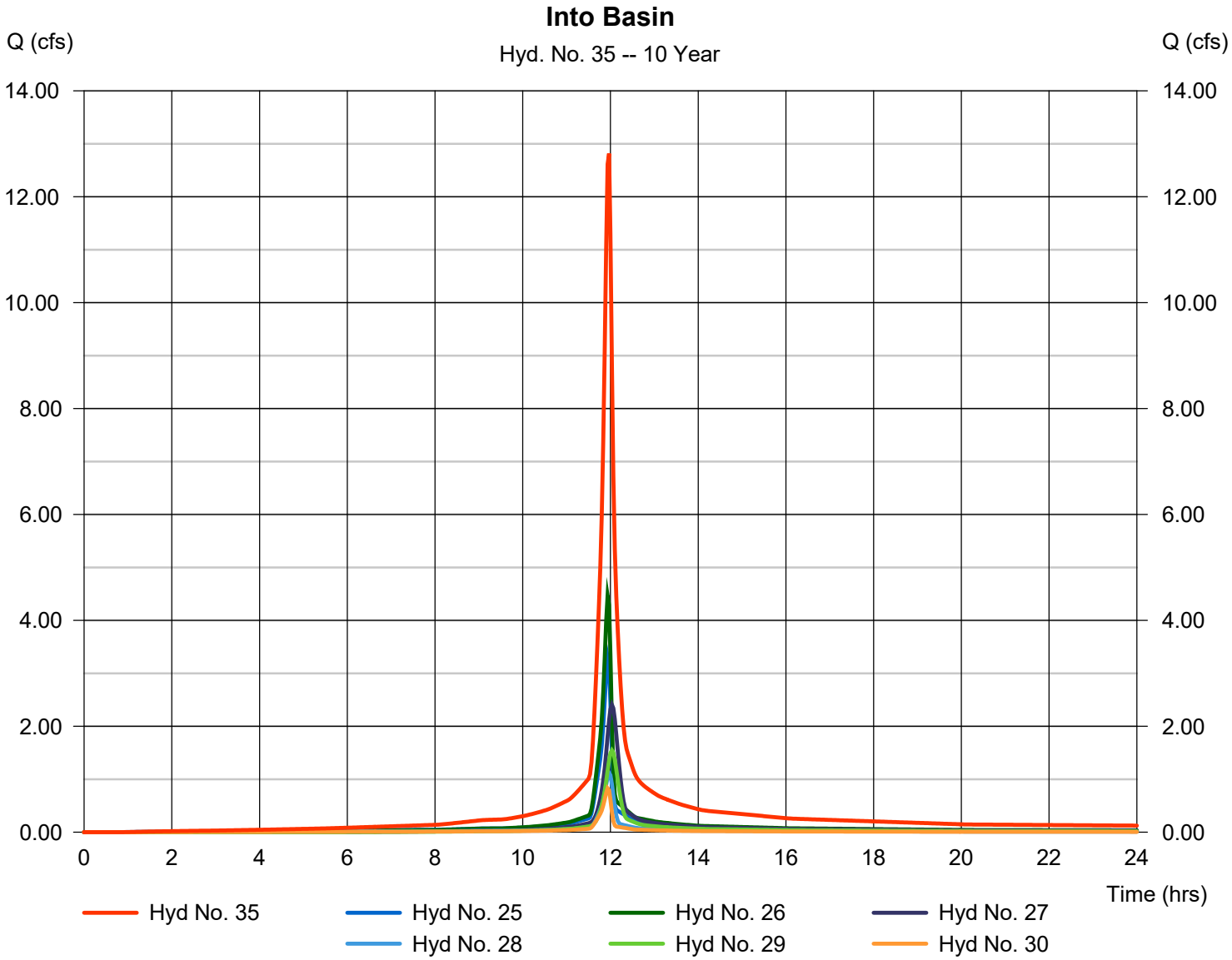


Hydrograph Report

Hyd. No. 35

Into Basin

Hydrograph type	= Combine	Peak discharge	= 12.82 cfs
Storm frequency	= 10 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 33,881 cuft
Inflow hyds.	= 25, 26, 27, 28, 29, 30	Contrib. drain. area	= 2.380 ac



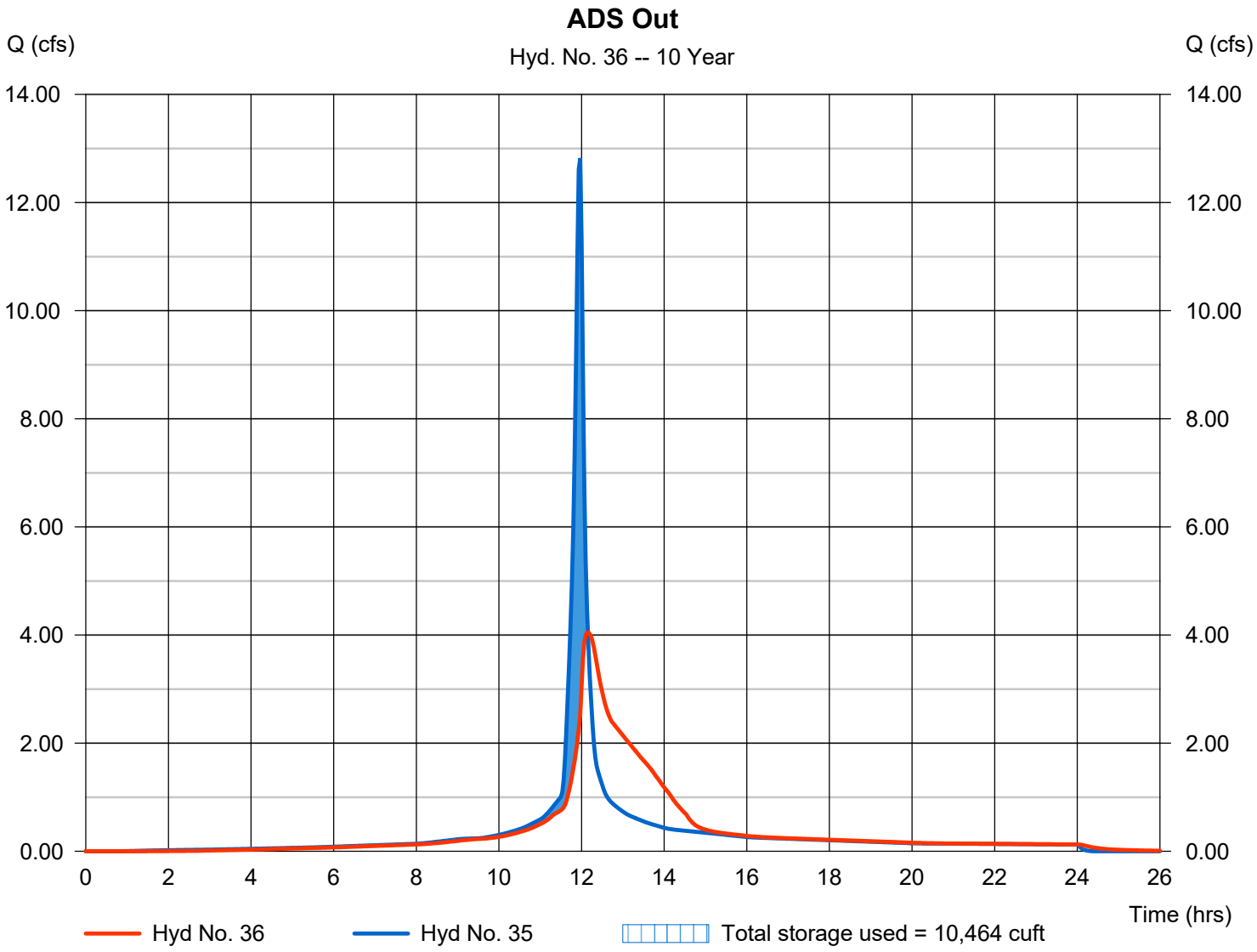
Hydrograph Report

Hyd. No. 36

ADS Out

Hydrograph type	=	Reservoir	Peak discharge	=	4.049 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.17 hrs
Time interval	=	2 min	Hyd. volume	=	33,871 cuft
Inflow hyd. No.	=	35 - Into Basin	Max. Elevation	=	1255.63 ft
Reservoir name	=	ADS	Max. Storage	=	10,464 cuft

Storage Indication method used.

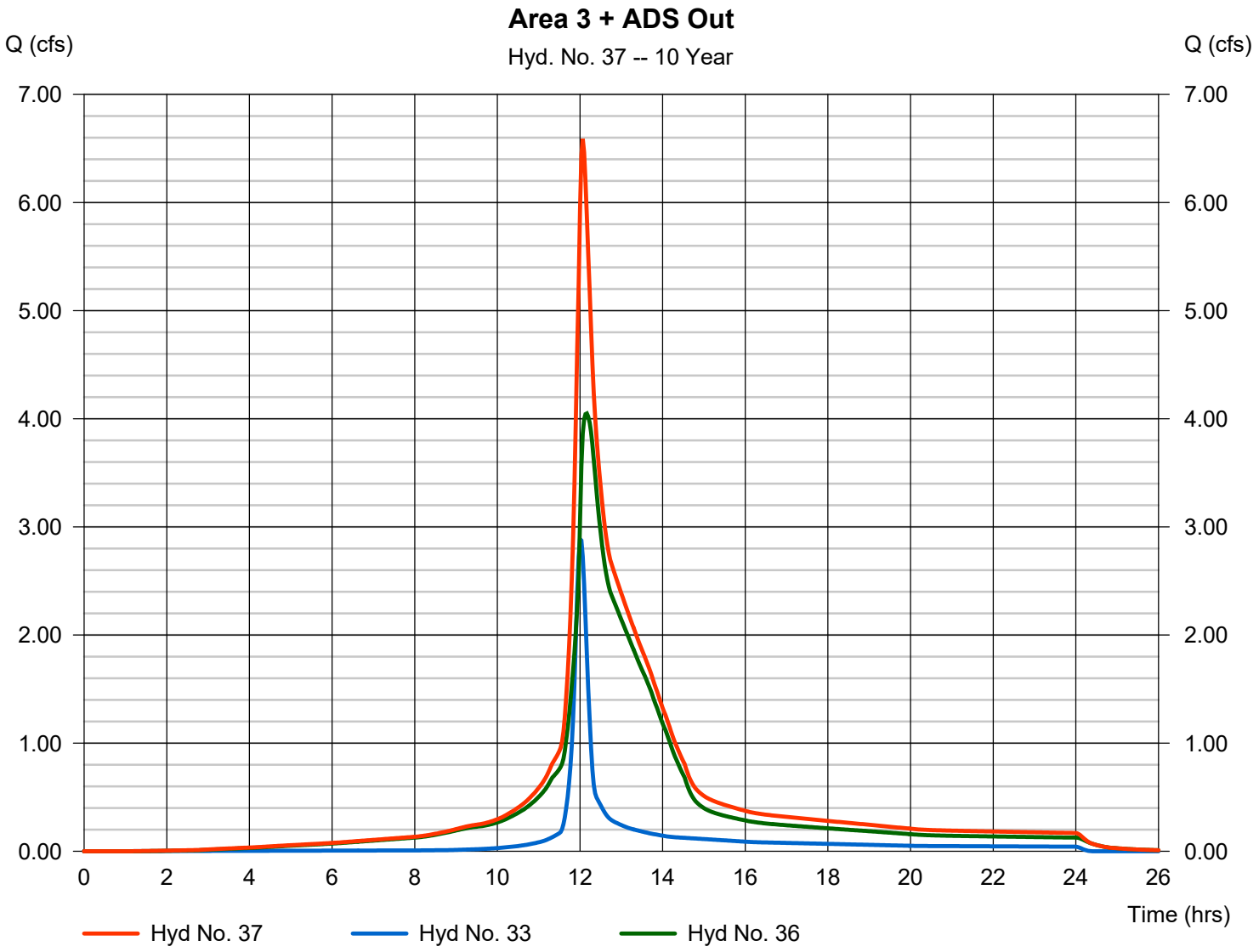


Hydrograph Report

Hyd. No. 37

Area 3 + ADS Out

Hydrograph type	=	Combine	Peak discharge	=	6.590 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	42,554 cuft
Inflow hyds.	=	33, 36	Contrib. drain. area	=	0.000 ac

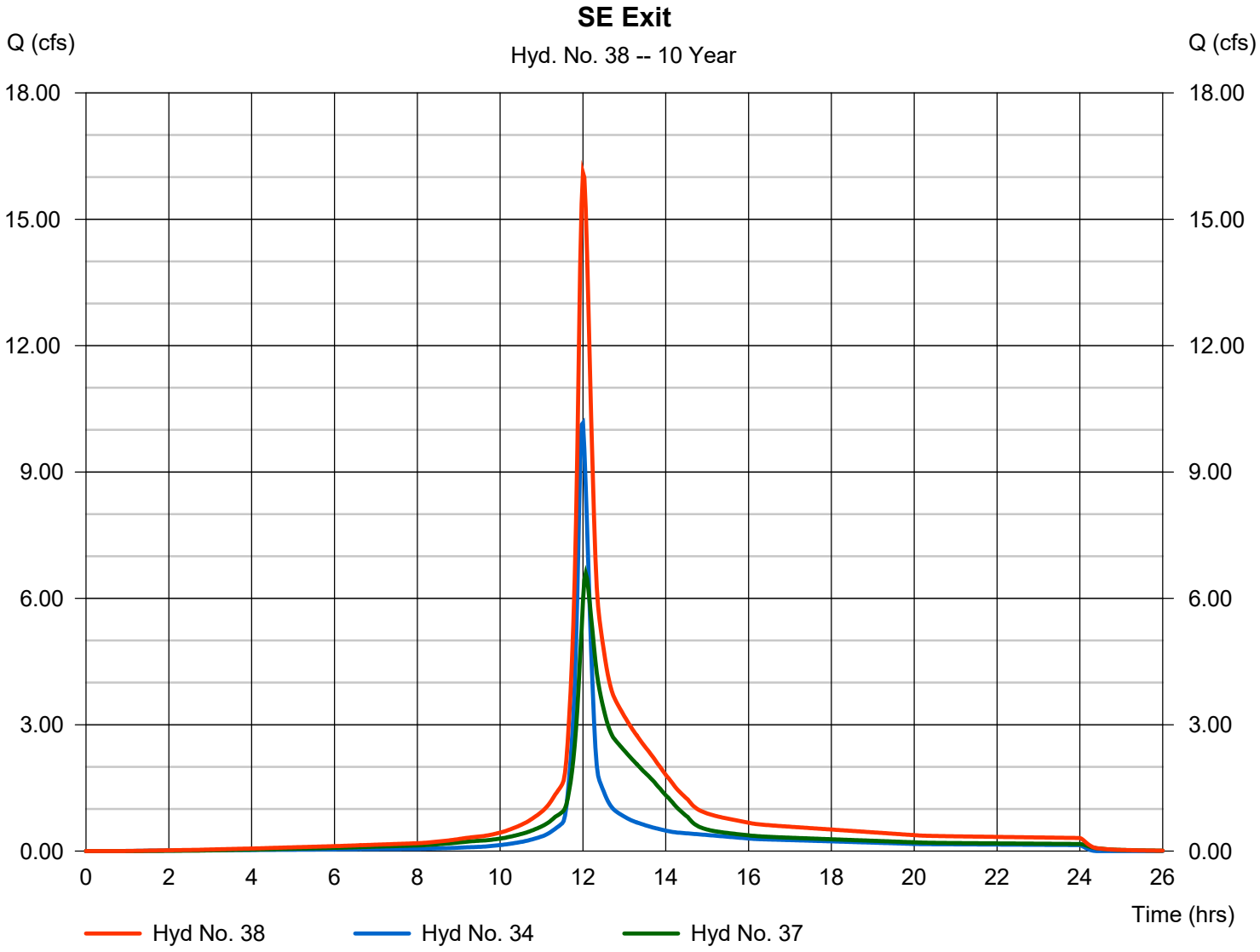


Hydrograph Report

Hyd. No. 38

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	16.10 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	73,449 cuft
Inflow hyds.	=	34, 37	Contrib. drain. area	=	0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	11.19	2	722	31,366	------	------	------	1
2	SCS Runoff	26.85	2	718	61,470	------	------	------	2
3	SCS Runoff	9.990	2	720	25,899	------	------	------	3
4	SCS Runoff	12.65	2	722	35,447	------	------	------	4
5	SCS Runoff	0.458	2	722	1,283	------	------	------	5
6	Combine	22.52	2	722	61,346	3, 4,	------	------	SE Exit
8	SCS Runoff	3.897	2	720	10,275	------	------	------	10
9	SCS Runoff	10.37	2	720	26,885	------	------	------	20
10	SCS Runoff	2.491	2	716	5,158	------	------	------	21
11	SCS Runoff	2.587	2	716	6,216	------	------	------	22
12	SCS Runoff	11.63	2	722	32,588	------	------	------	23
13	SCS Runoff	0.584	2	716	1,404	------	------	------	24
14	SCS Runoff	0.584	2	716	1,404	------	------	------	25
15	SCS Runoff	3.578	2	722	10,028	------	------	------	30
16	SCS Runoff	0.083	2	716	201	------	------	------	31
17	SCS Runoff	0.167	2	716	401	------	------	------	32
18	SCS Runoff	0.417	2	716	1,003	------	------	------	33
19	SCS Runoff	10.69	2	722	29,966	------	------	------	40
20	SCS Runoff	0.668	2	716	1,604	------	------	------	41
21	SCS Runoff	0.668	2	716	1,604	------	------	------	42
22	SCS Runoff	1.836	2	716	4,411	------	------	------	43
23	SCS Runoff	1.335	2	716	3,208	------	------	------	44
24	SCS Runoff	1.252	2	716	3,008	------	------	------	50
25	SCS Runoff	4.006	2	716	9,624	------	------	------	60
26	SCS Runoff	5.500	2	716	12,231	------	------	------	61
27	SCS Runoff	3.070	2	722	8,813	------	------	------	62
28	SCS Runoff	1.356	2	718	3,636	------	------	------	63
29	SCS Runoff	1.973	2	722	5,666	------	------	------	64
30	SCS Runoff	1.001	2	716	2,406	------	------	------	65
32	Combine	26.14	2	720	73,654	9, 10, 11, 12, 13, 14,	------	------	Area 2 Into Pond
33	Combine	3.901	2	720	11,632	15, 16, 17, 18,	------	------	Area 3 Sub
34	Combine	13.52	2	720	40,794	19, 20, 21, 22, 23,	------	------	Area 4 Sub
35	Combine	15.85	2	718	42,376	25, 26, 27, 28, 29, 30,	------	------	Into Basin

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

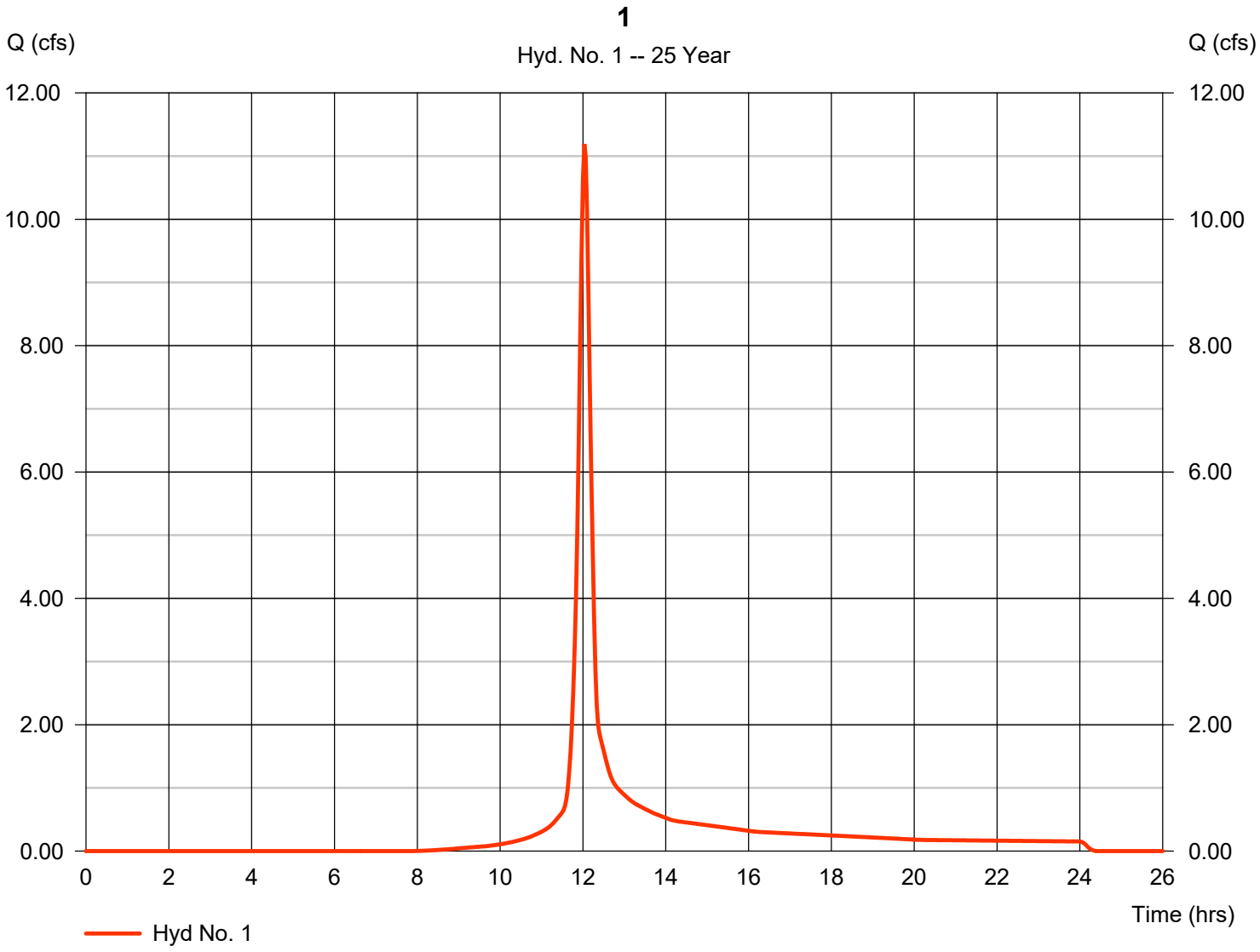
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
36	Reservoir	5.131	2	730	42,366	35	1256.25	13,005	ADS Out
37	Combine	8.642	2	724	53,997	33, 36	------	------	Area 3 + ADS Out
38	Combine	21.75	2	720	94,791	34, 37	------	------	SE Exit

Hydrograph Report

Hyd. No. 1

1

Hydrograph type	=	SCS Runoff	Peak discharge	=	11.19 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	31,366 cuft
Drainage area	=	2.690 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	14.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

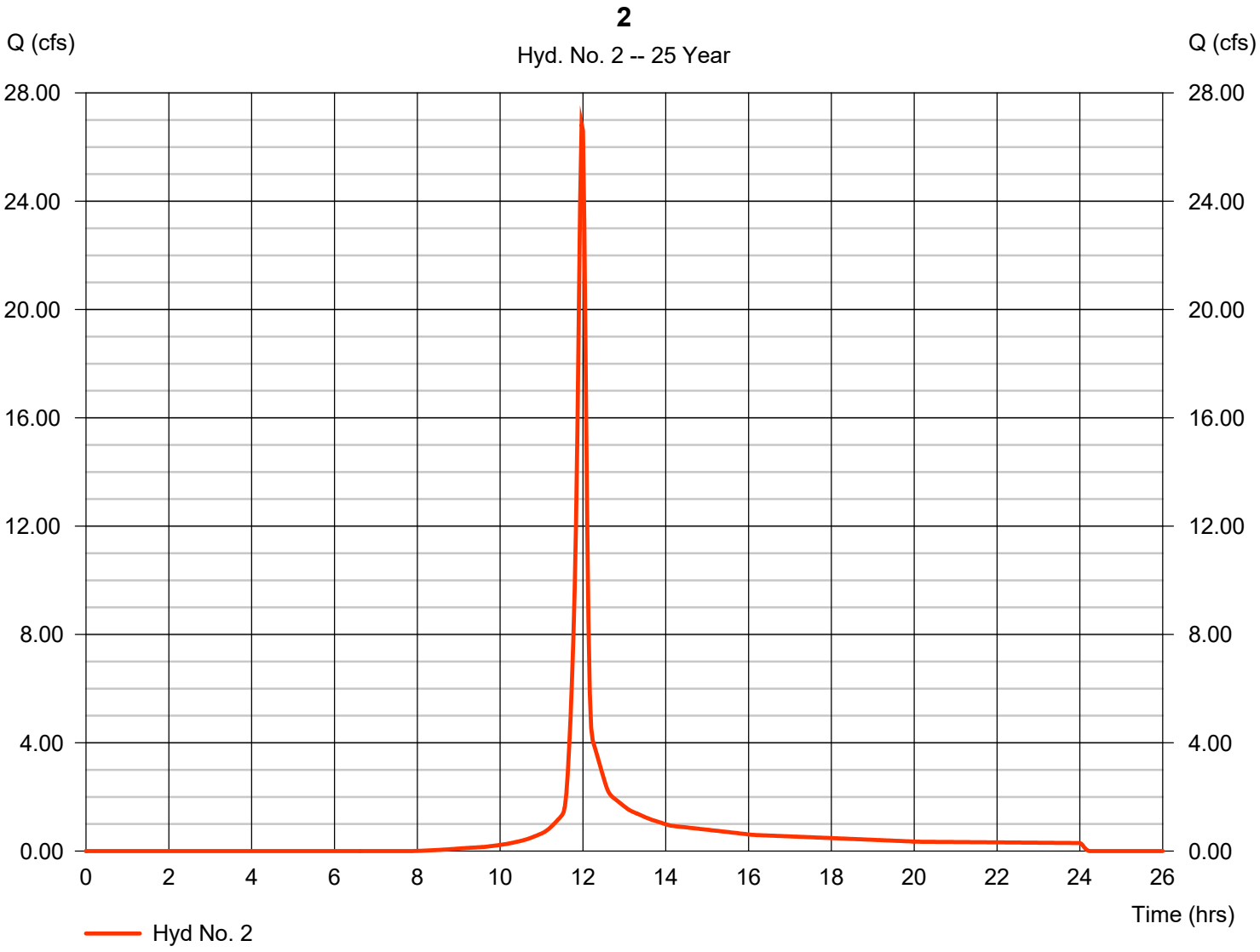


Hydrograph Report

Hyd. No. 2

2

Hydrograph type	=	SCS Runoff	Peak discharge	=	26.85 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	61,470 cuft
Drainage area	=	5.140 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

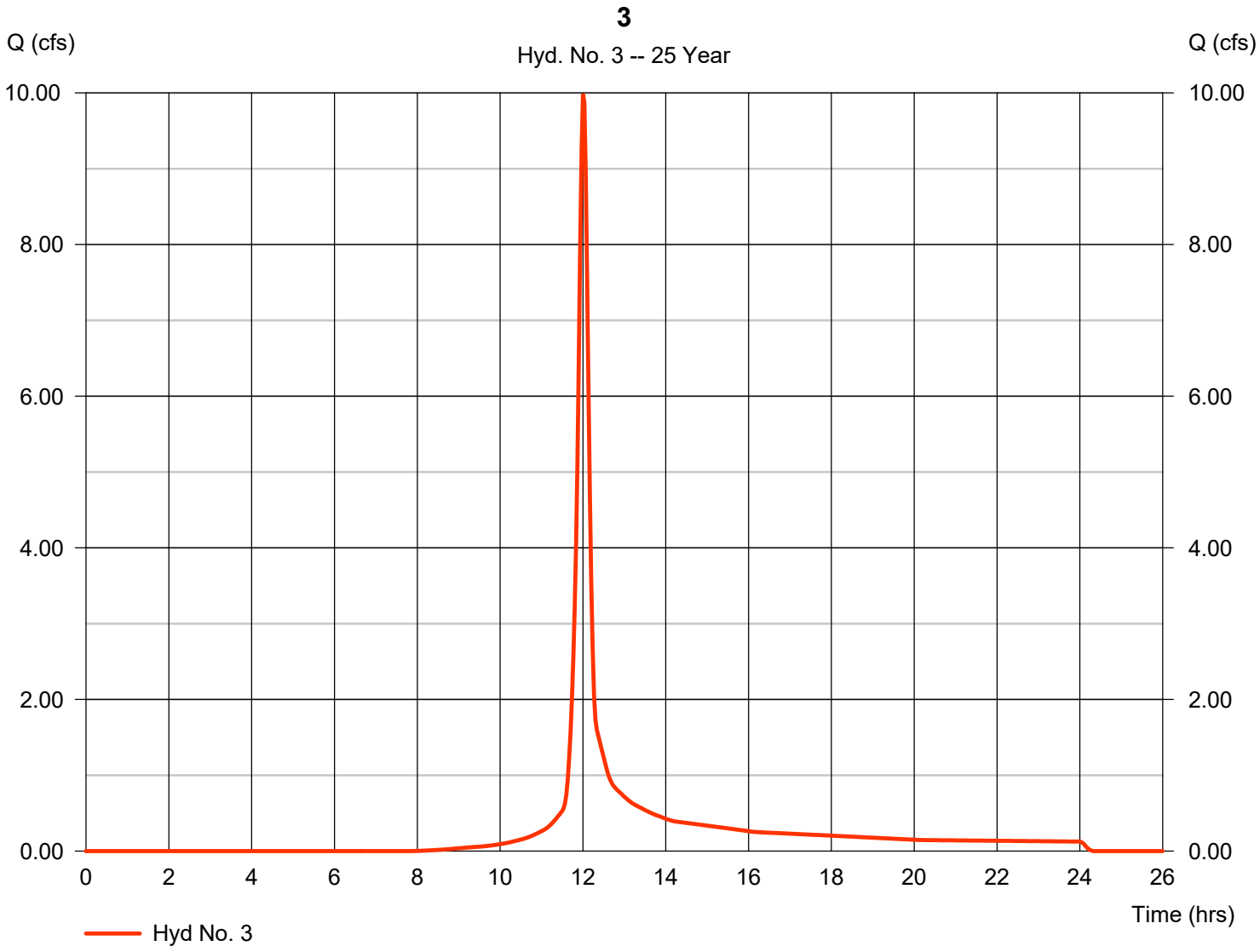


Hydrograph Report

Hyd. No. 3

3

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.990 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	25,899 cuft
Drainage area	=	2.100 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	13.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

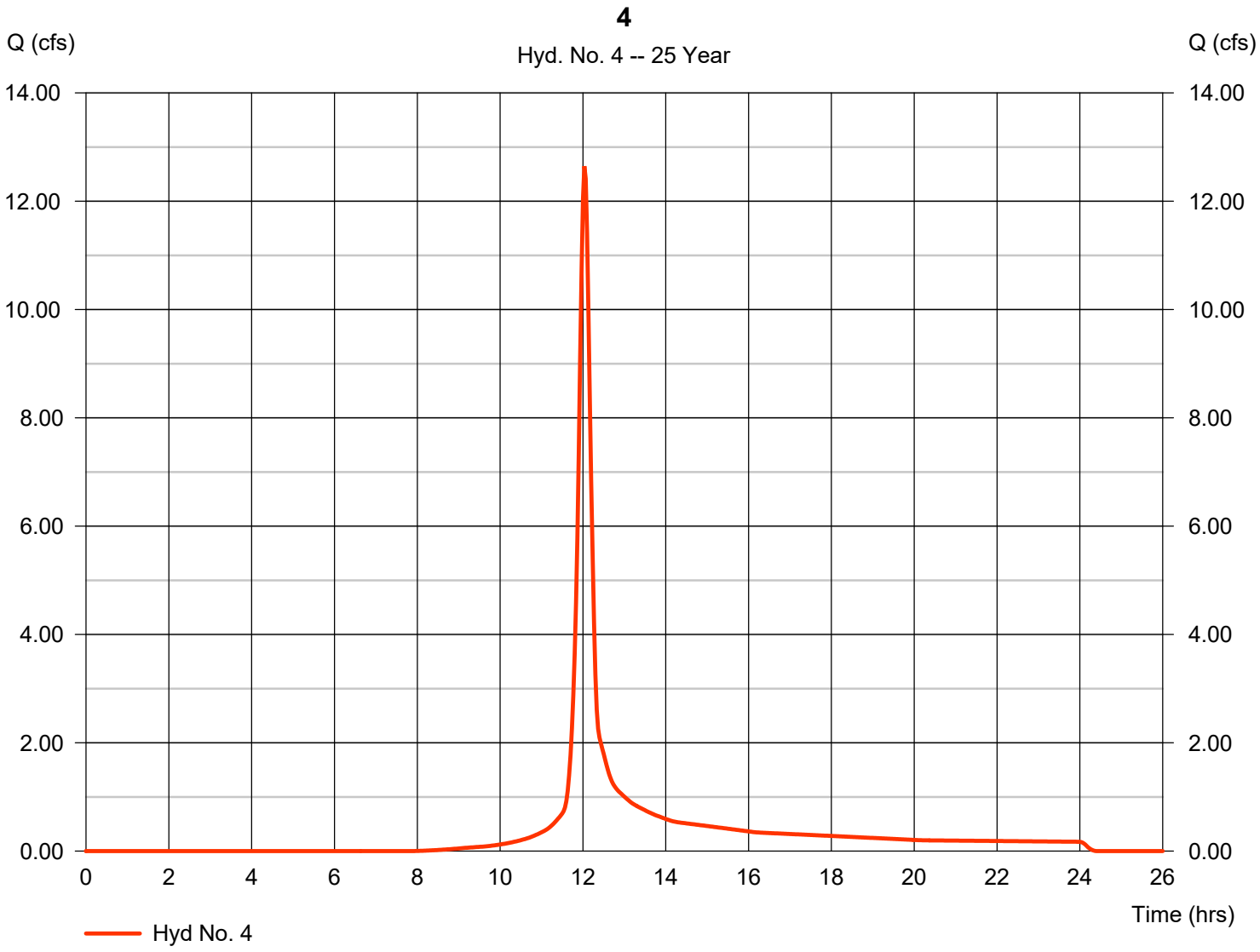


Hydrograph Report

Hyd. No. 4

4

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.65 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	35,447 cuft
Drainage area	=	3.040 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

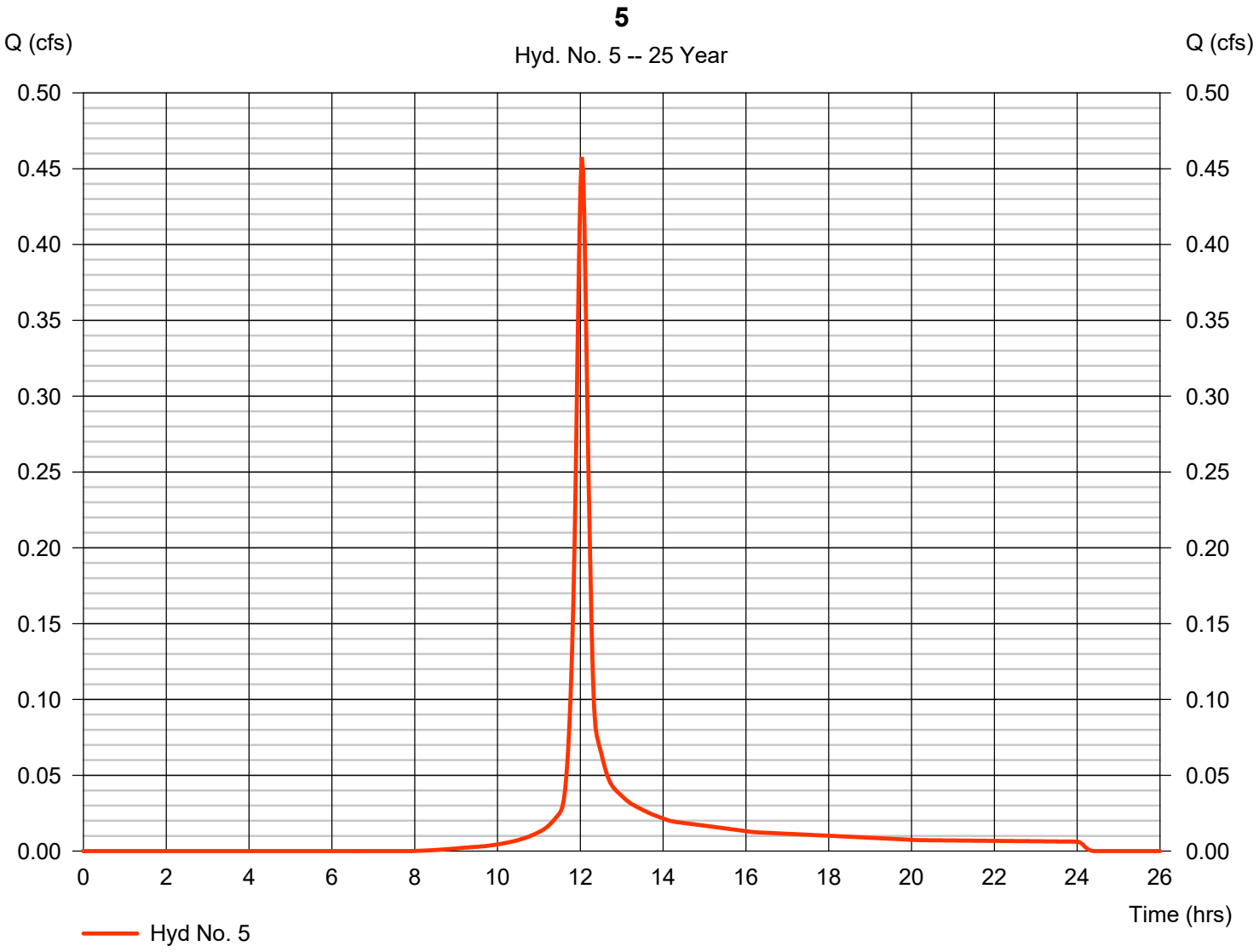


Hydrograph Report

Hyd. No. 5

5

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.458 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,283 cuft
Drainage area	=	0.110 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

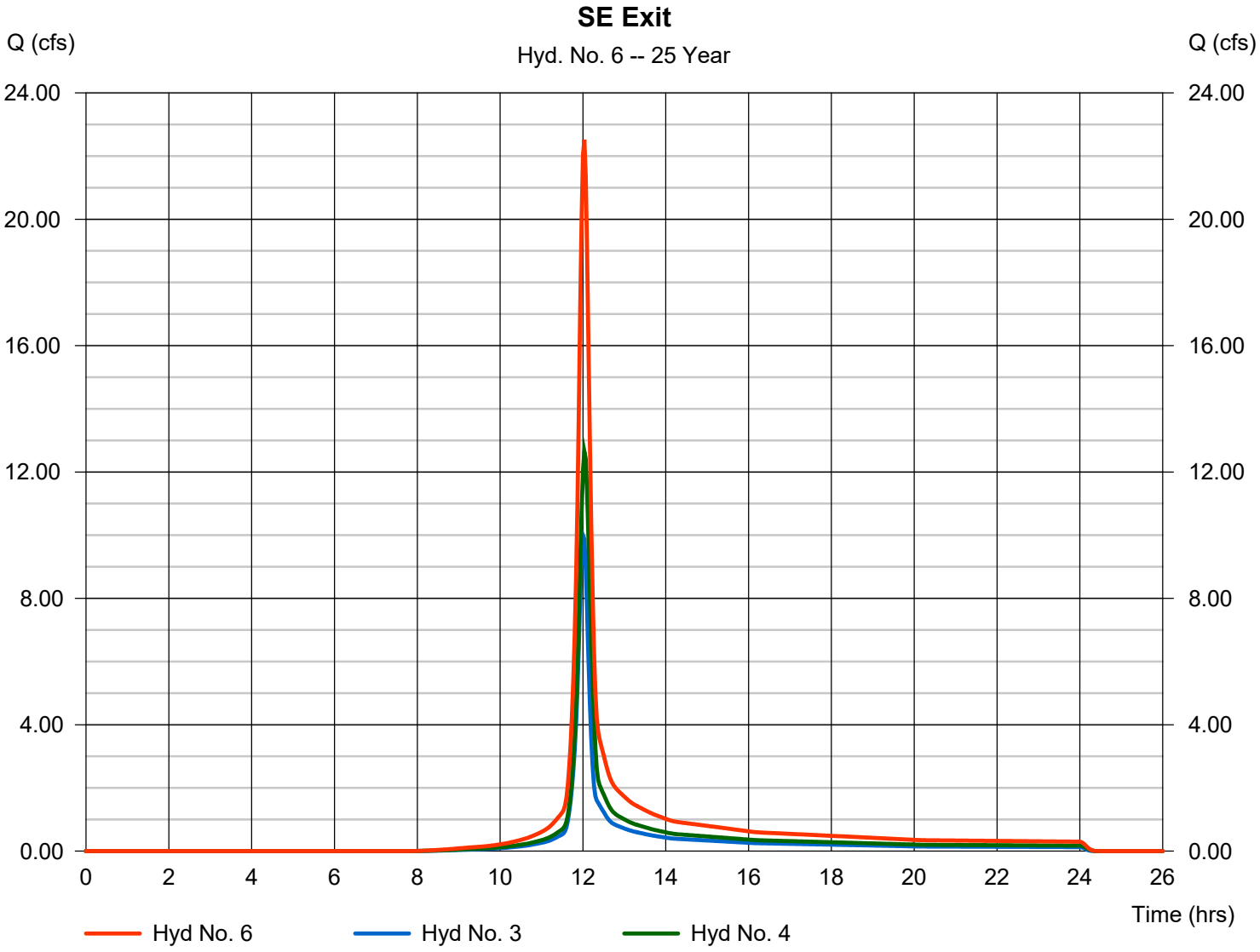


Hydrograph Report

Hyd. No. 6

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	22.52 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	61,346 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	5.140 ac

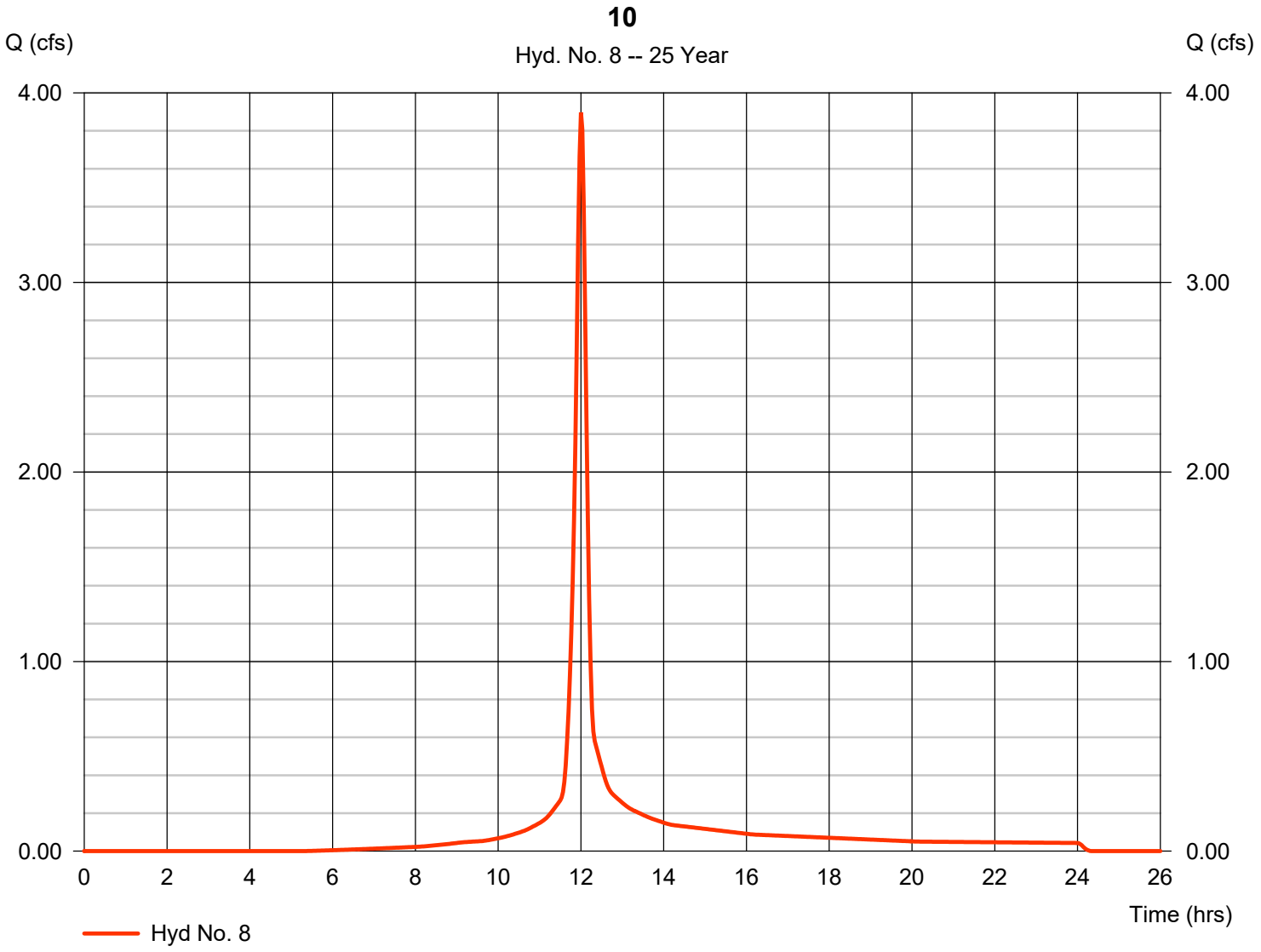


Hydrograph Report

Hyd. No. 8

10

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.897 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	10,275 cuft
Drainage area	=	0.650 ac	Curve number	=	83.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

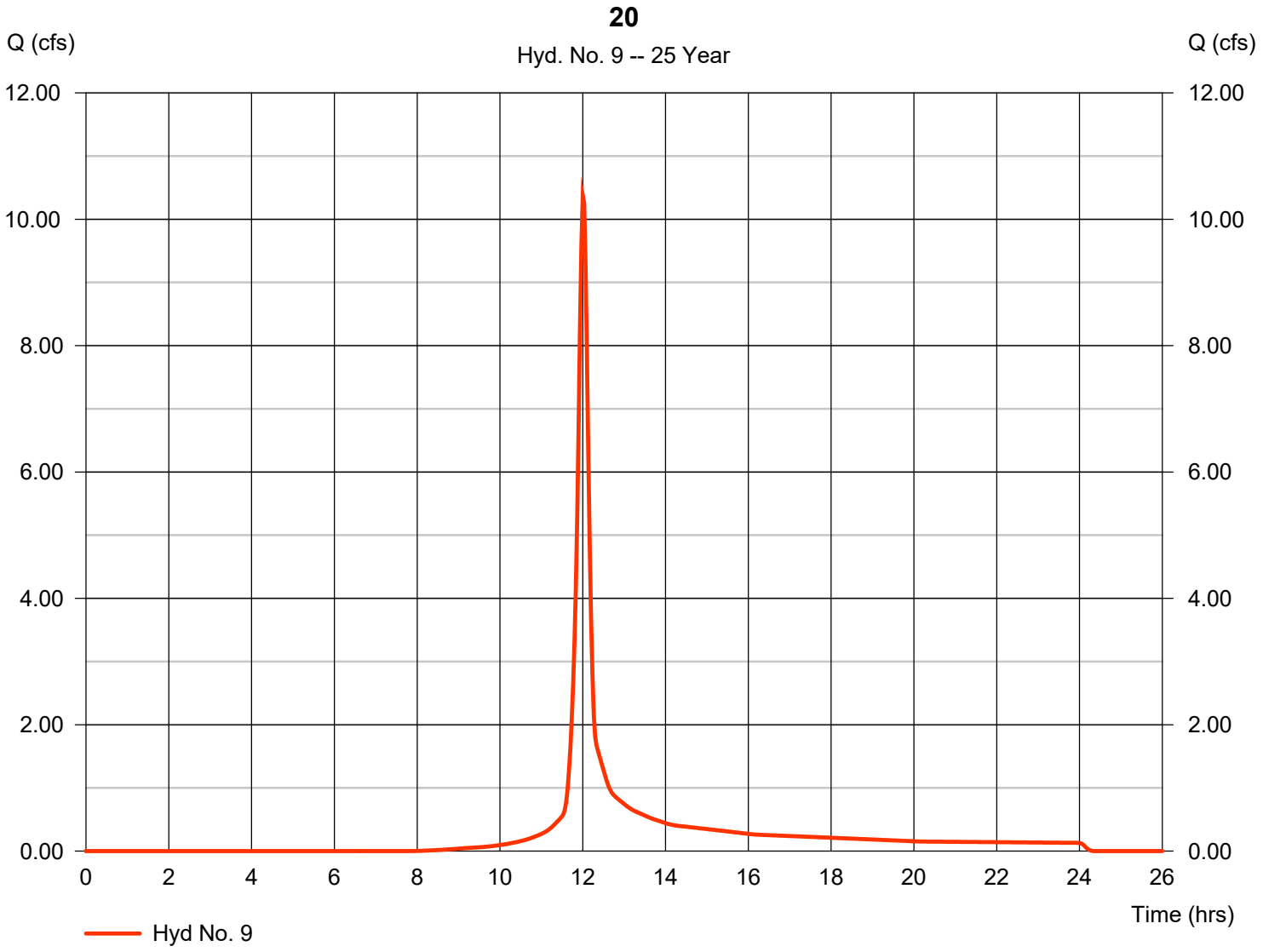


Hydrograph Report

Hyd. No. 9

20

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.37 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	26,885 cuft
Drainage area	=	2.180 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	12.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

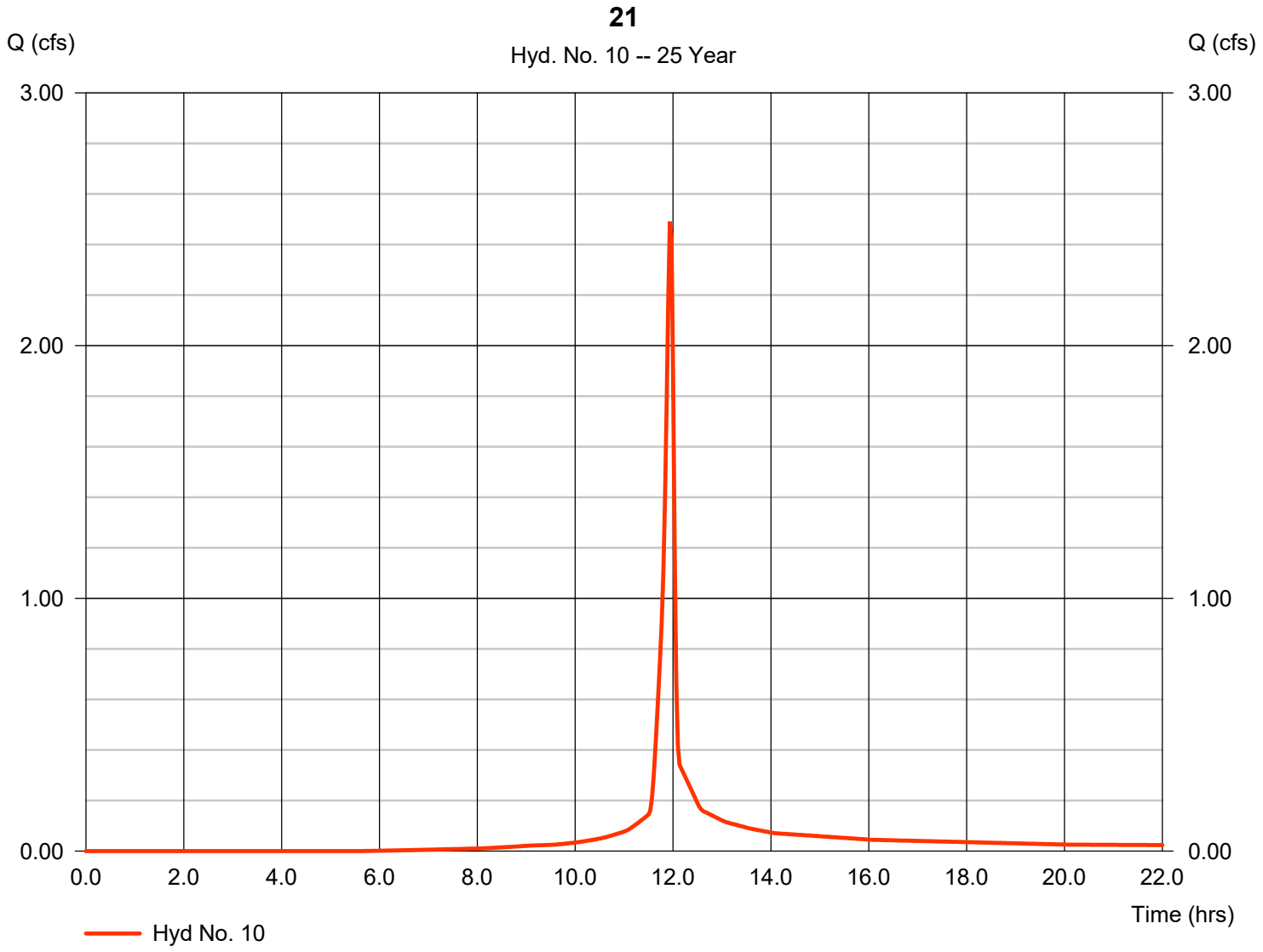


Hydrograph Report

Hyd. No. 10

21

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.491 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	5,158 cuft
Drainage area	=	0.370 ac	Curve number	=	81.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

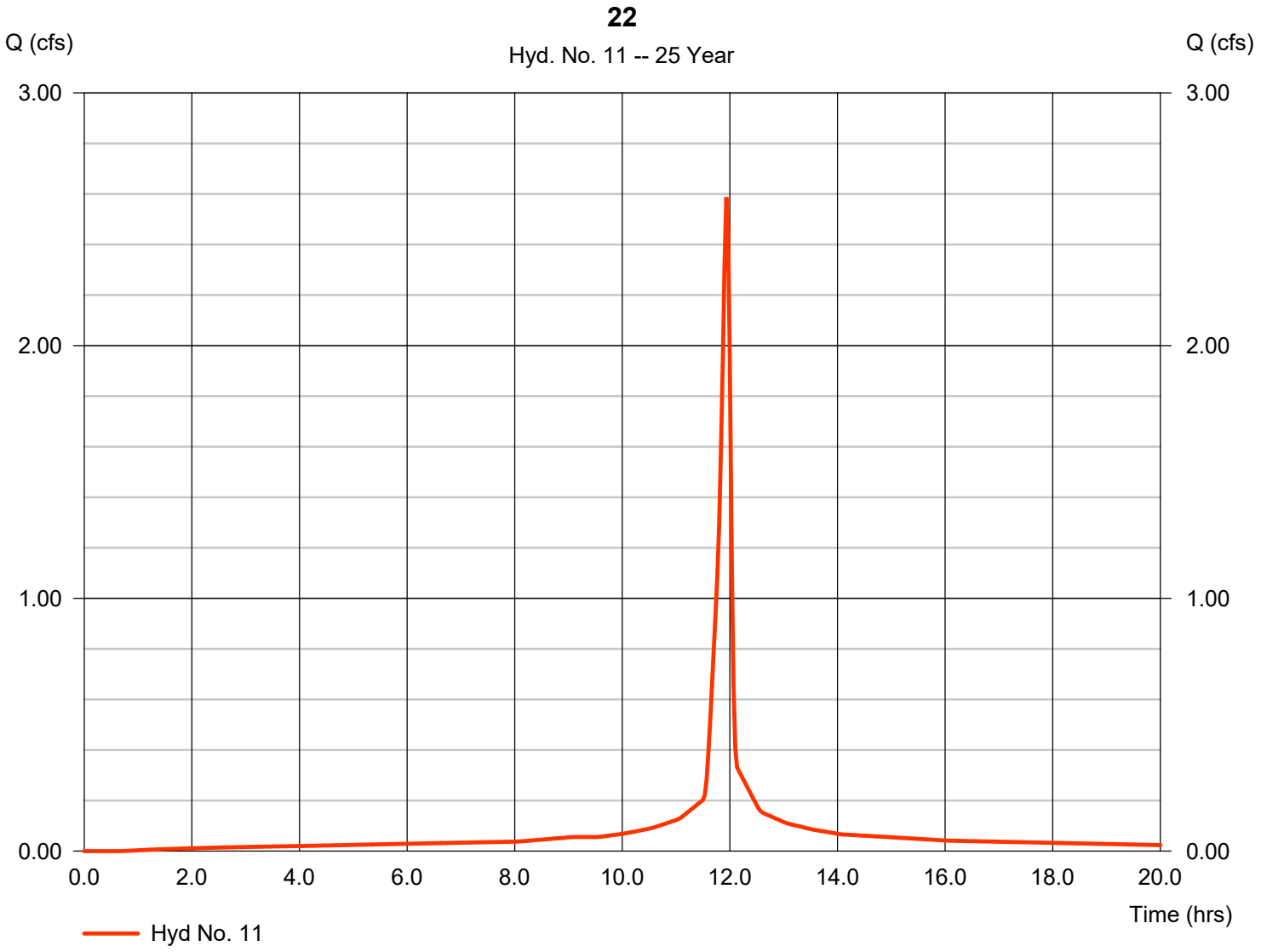


Hydrograph Report

Hyd. No. 11

22

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.587 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	6,216 cuft
Drainage area	=	0.310 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

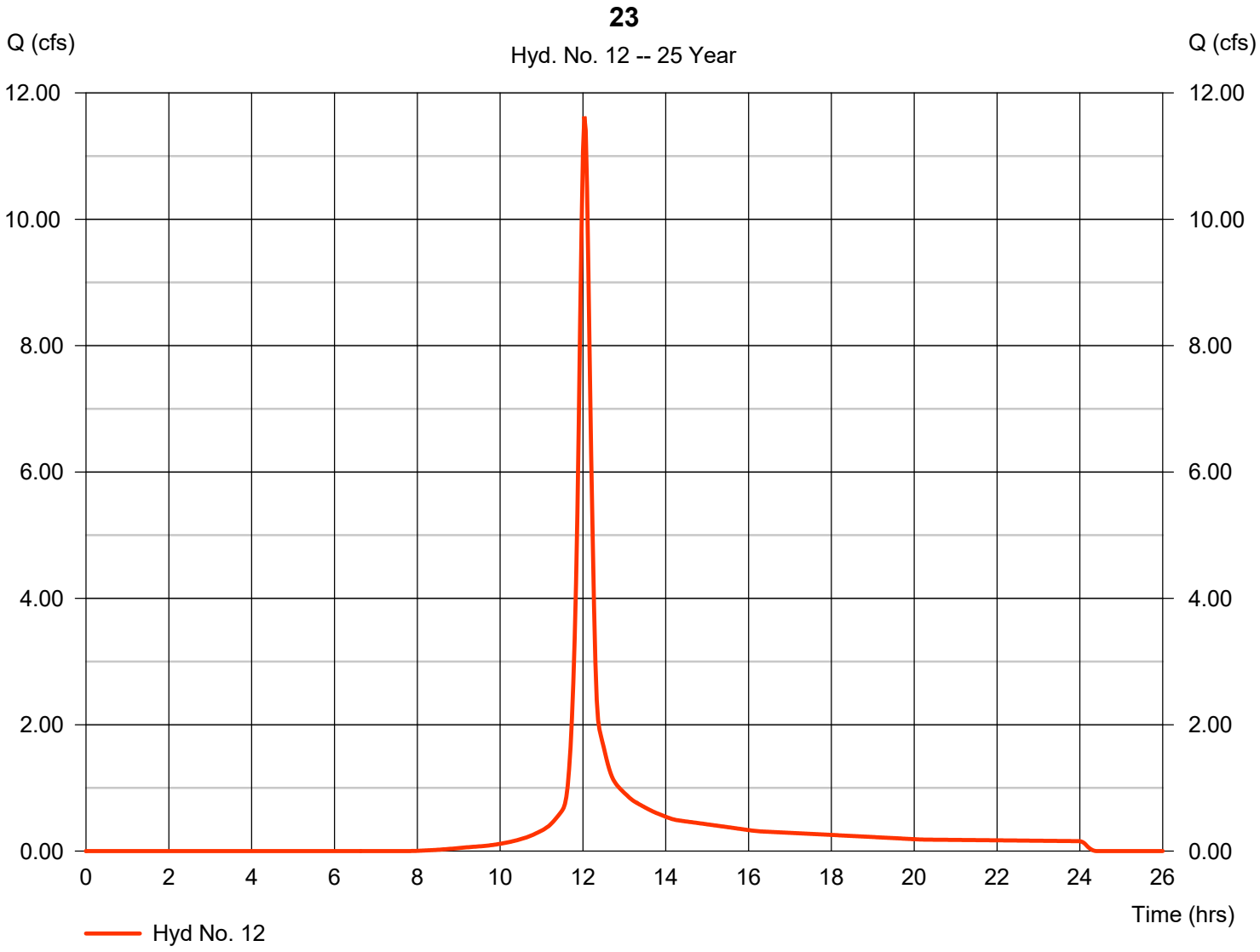


Hydrograph Report

Hyd. No. 12

23

Hydrograph type	=	SCS Runoff	Peak discharge	=	11.63 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	32,588 cuft
Drainage area	=	2.770 ac	Curve number	=	74.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

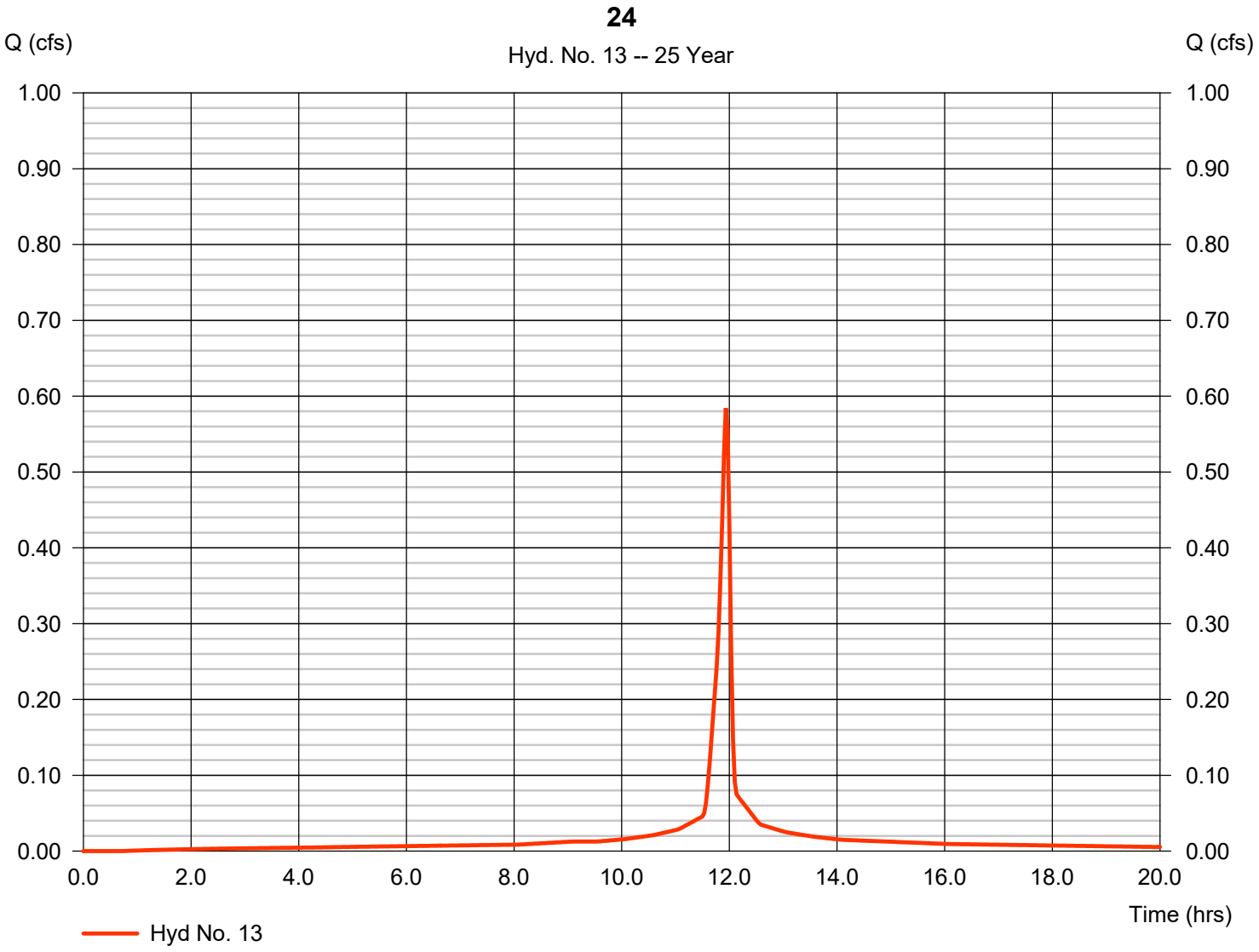


Hydrograph Report

Hyd. No. 13

24

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.584 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,404 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

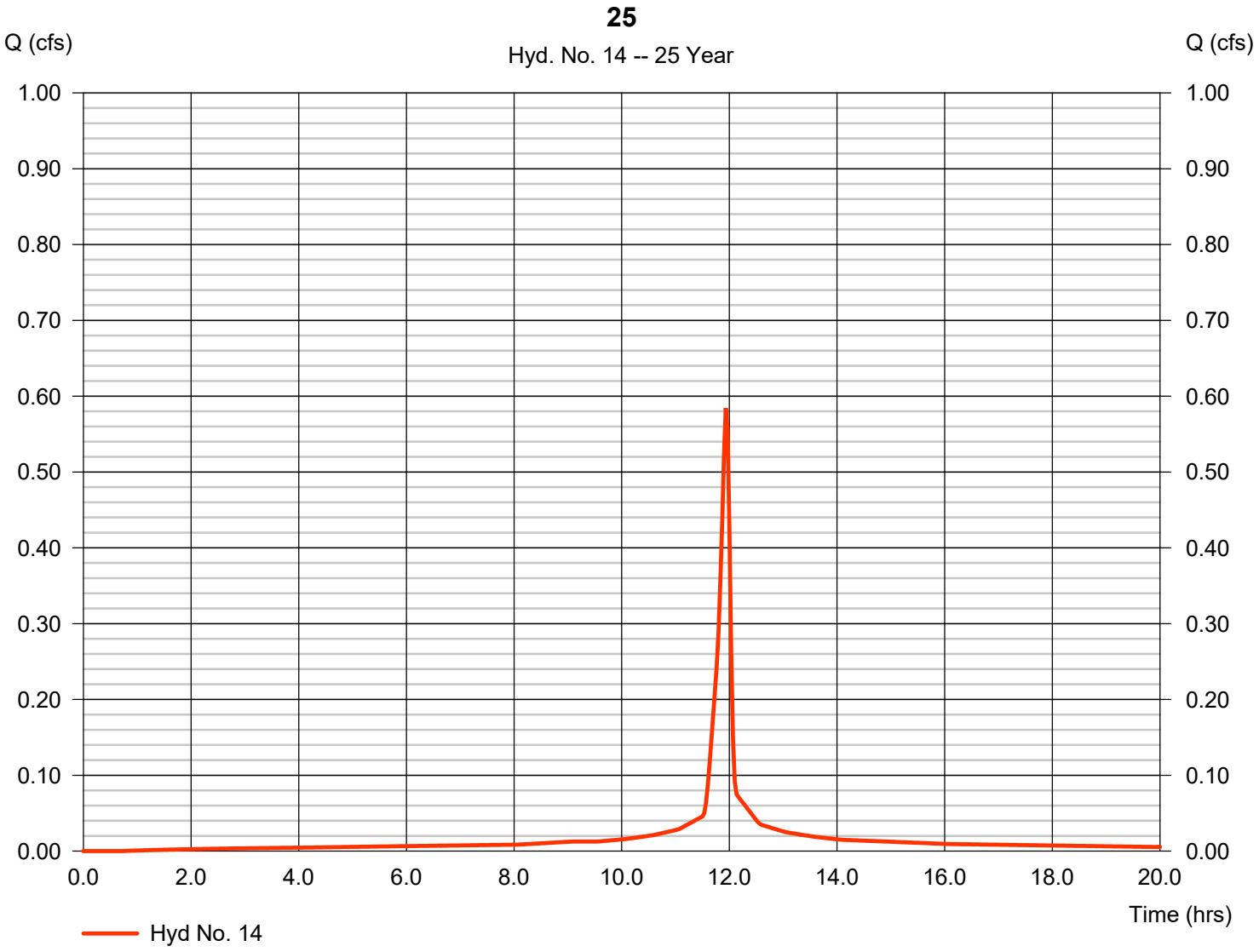


Hydrograph Report

Hyd. No. 14

25

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.584 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,404 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

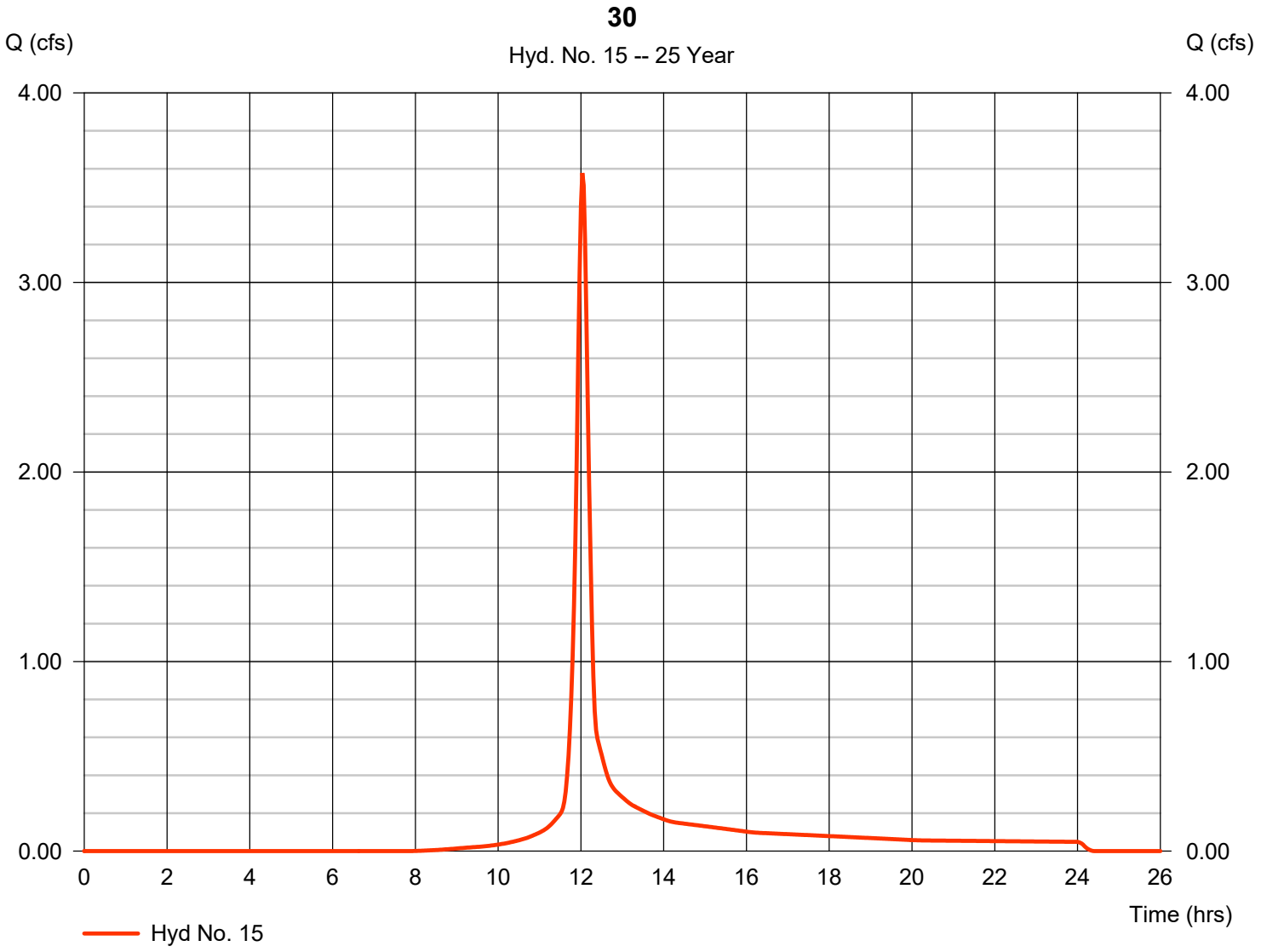


Hydrograph Report

Hyd. No. 15

30

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.578 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	10,028 cuft
Drainage area	=	0.860 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

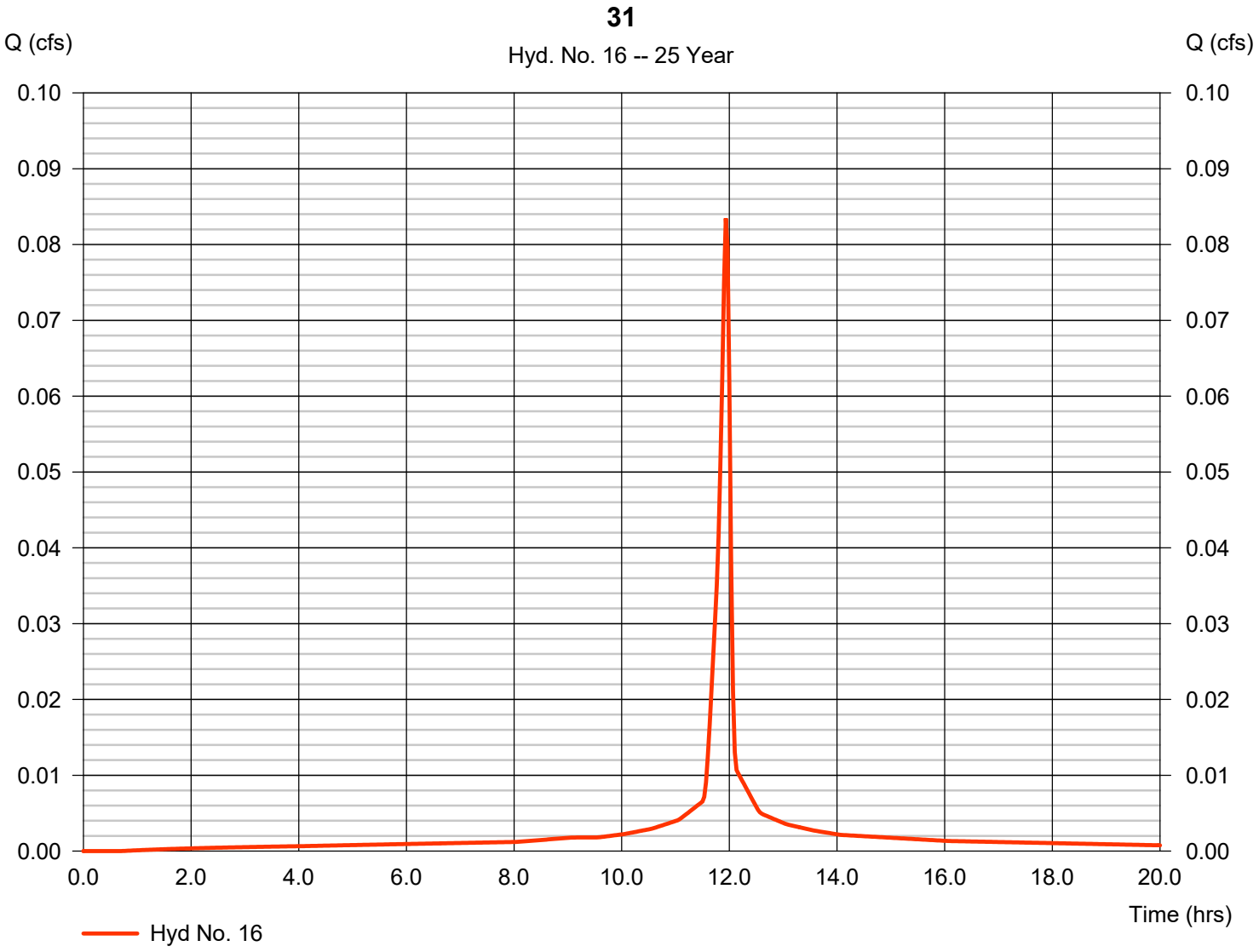


Hydrograph Report

Hyd. No. 16

31

Hydrograph type	= SCS Runoff	Peak discharge	= 0.083 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.93 hrs
Time interval	= 2 min	Hyd. volume	= 201 cuft
Drainage area	= 0.010 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.13 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

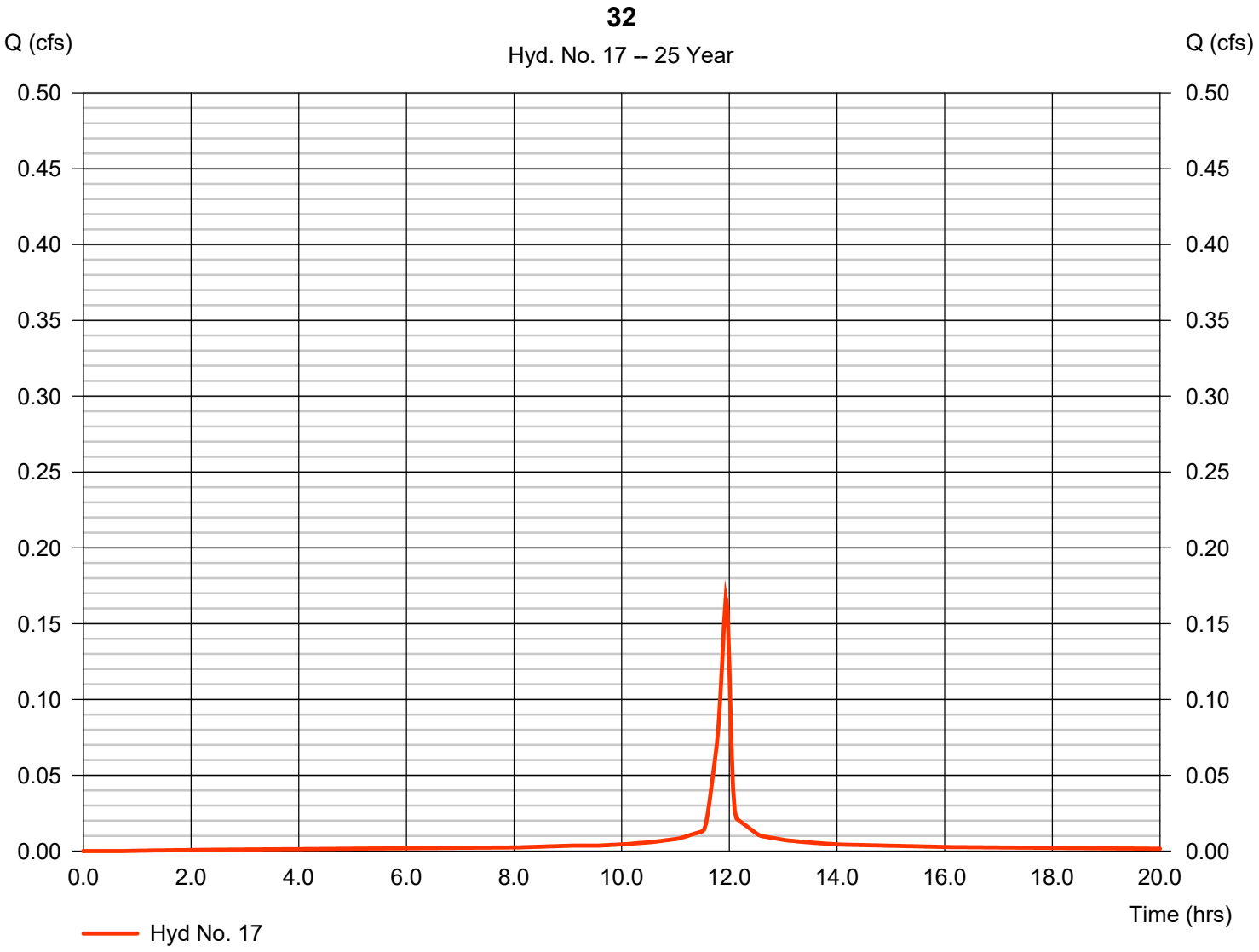


Hydrograph Report

Hyd. No. 17

32

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.167 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	401 cuft
Drainage area	=	0.020 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

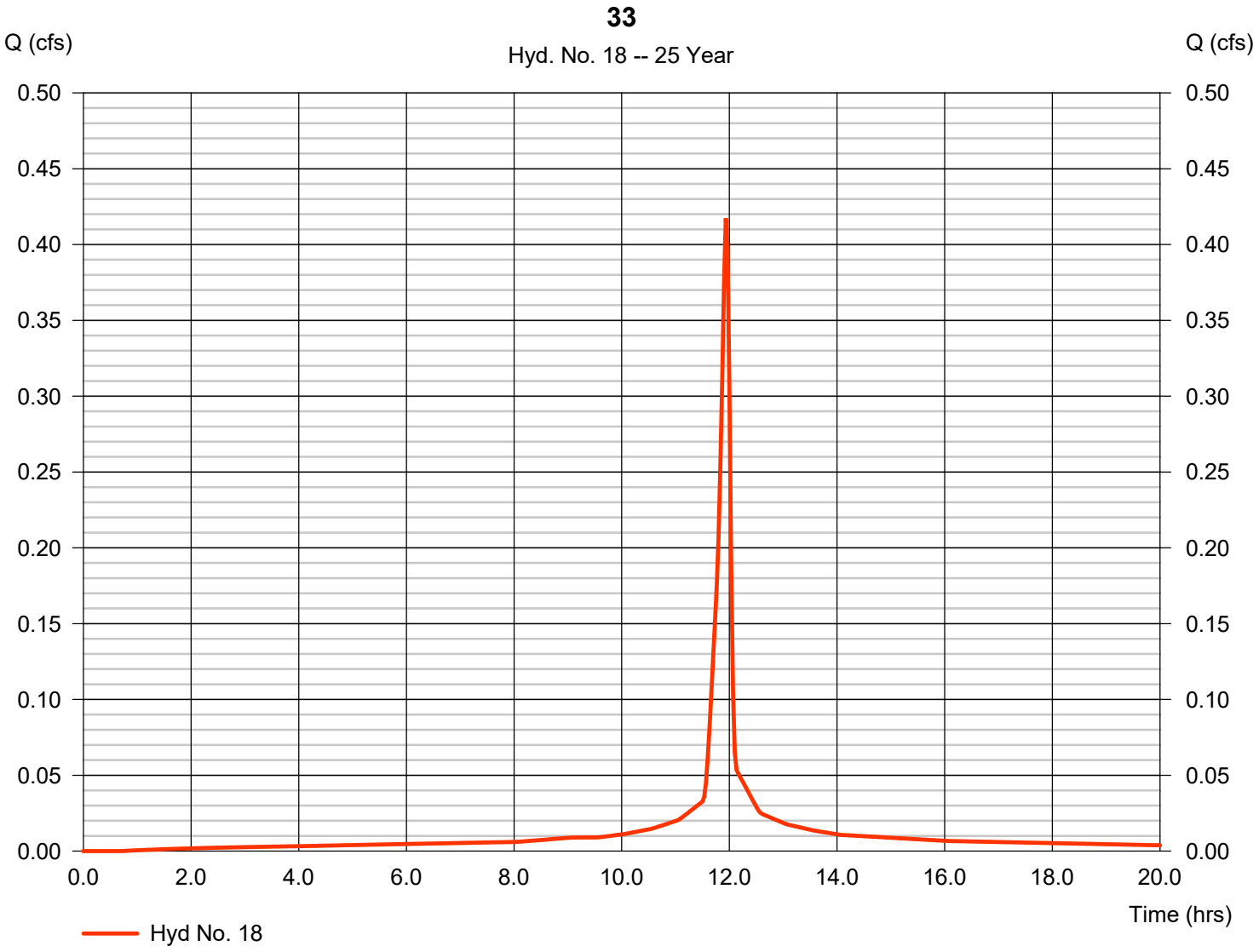


Hydrograph Report

Hyd. No. 18

33

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.417 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,003 cuft
Drainage area	=	0.050 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

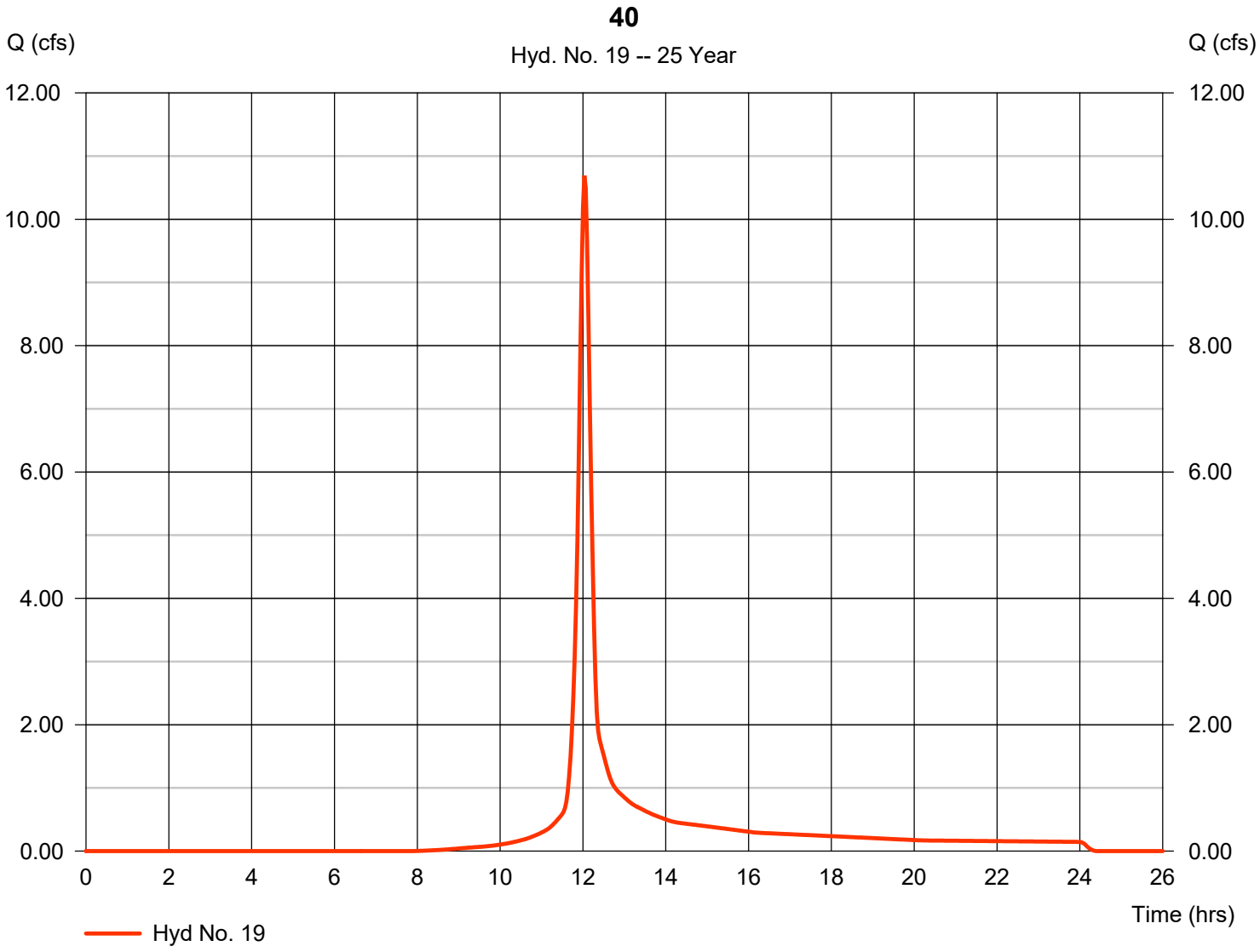


Hydrograph Report

Hyd. No. 19

40

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.69 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	29,966 cuft
Drainage area	=	2.570 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

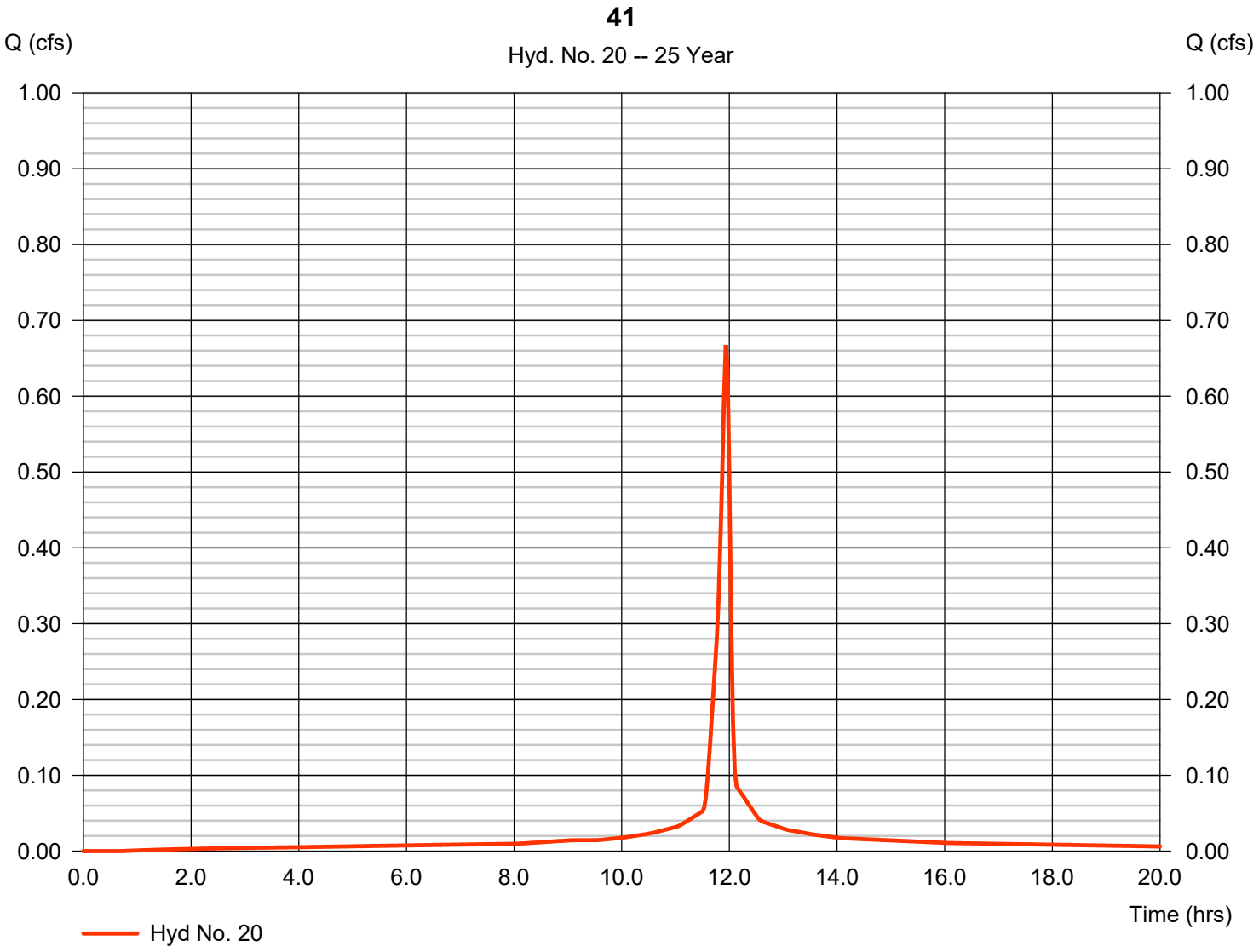


Hydrograph Report

Hyd. No. 20

41

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.668 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,604 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

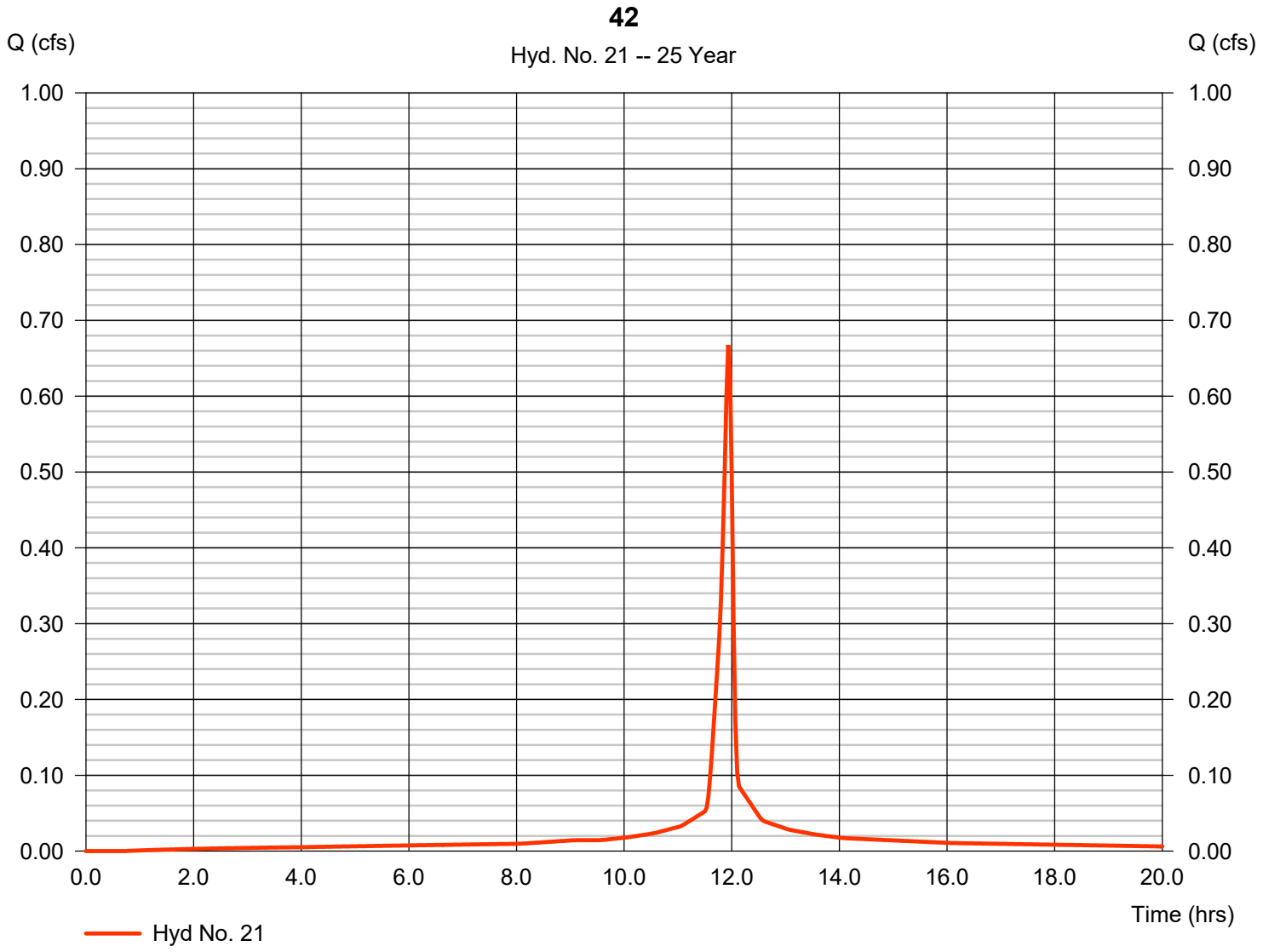


Hydrograph Report

Hyd. No. 21

42

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.668 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,604 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

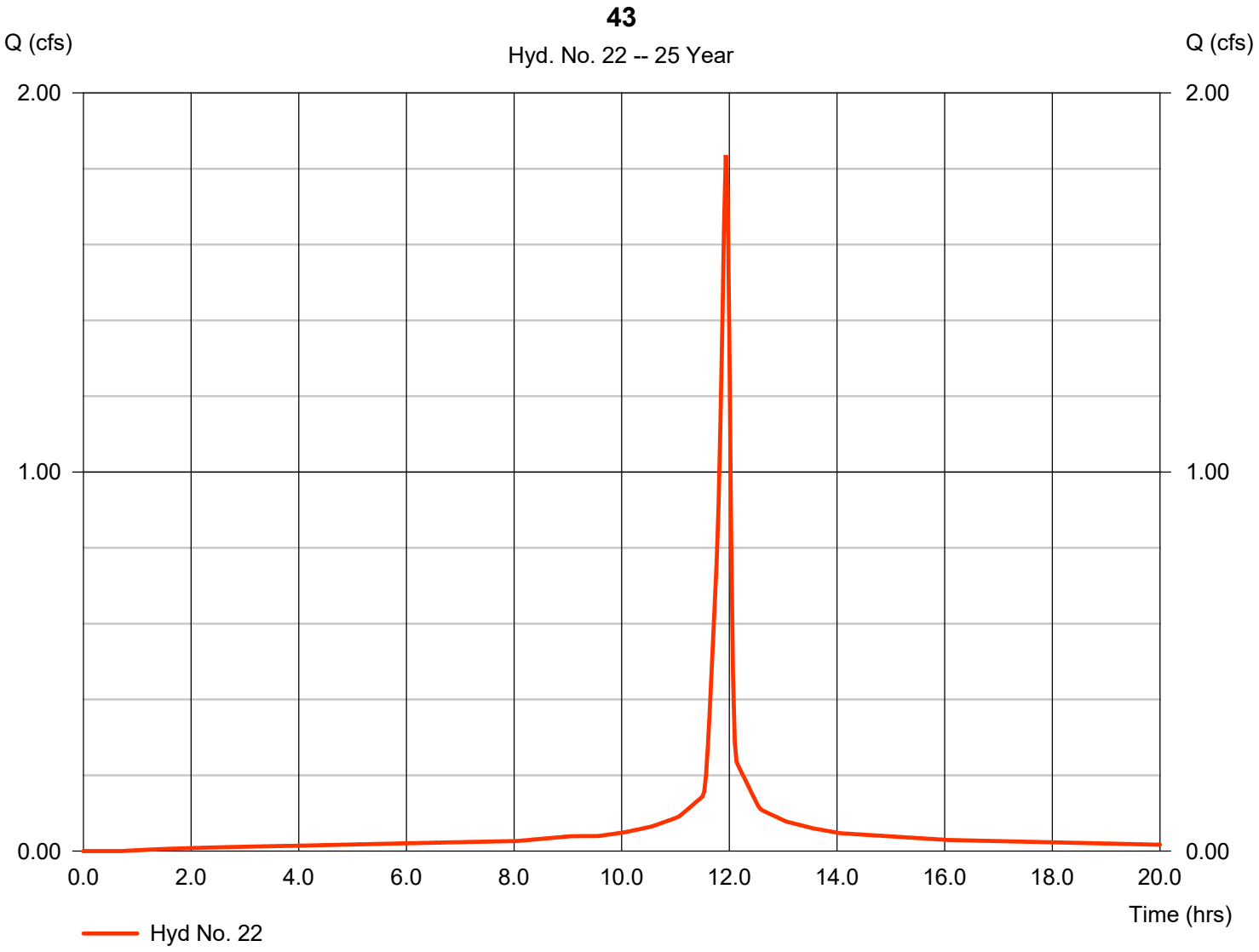


Hydrograph Report

Hyd. No. 22

43

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.836 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	4,411 cuft
Drainage area	=	0.220 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

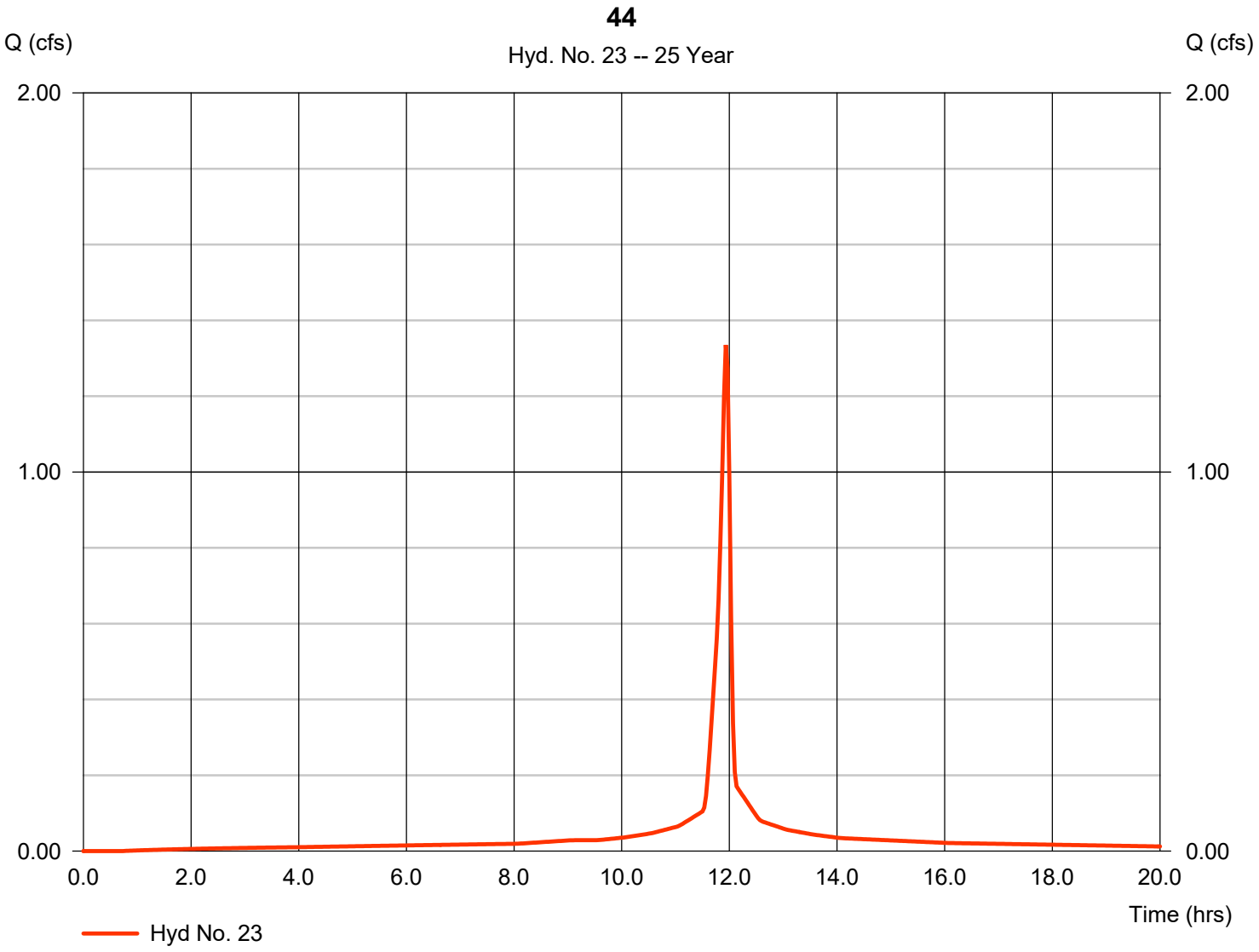


Hydrograph Report

Hyd. No. 23

44

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.335 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,208 cuft
Drainage area	=	0.160 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

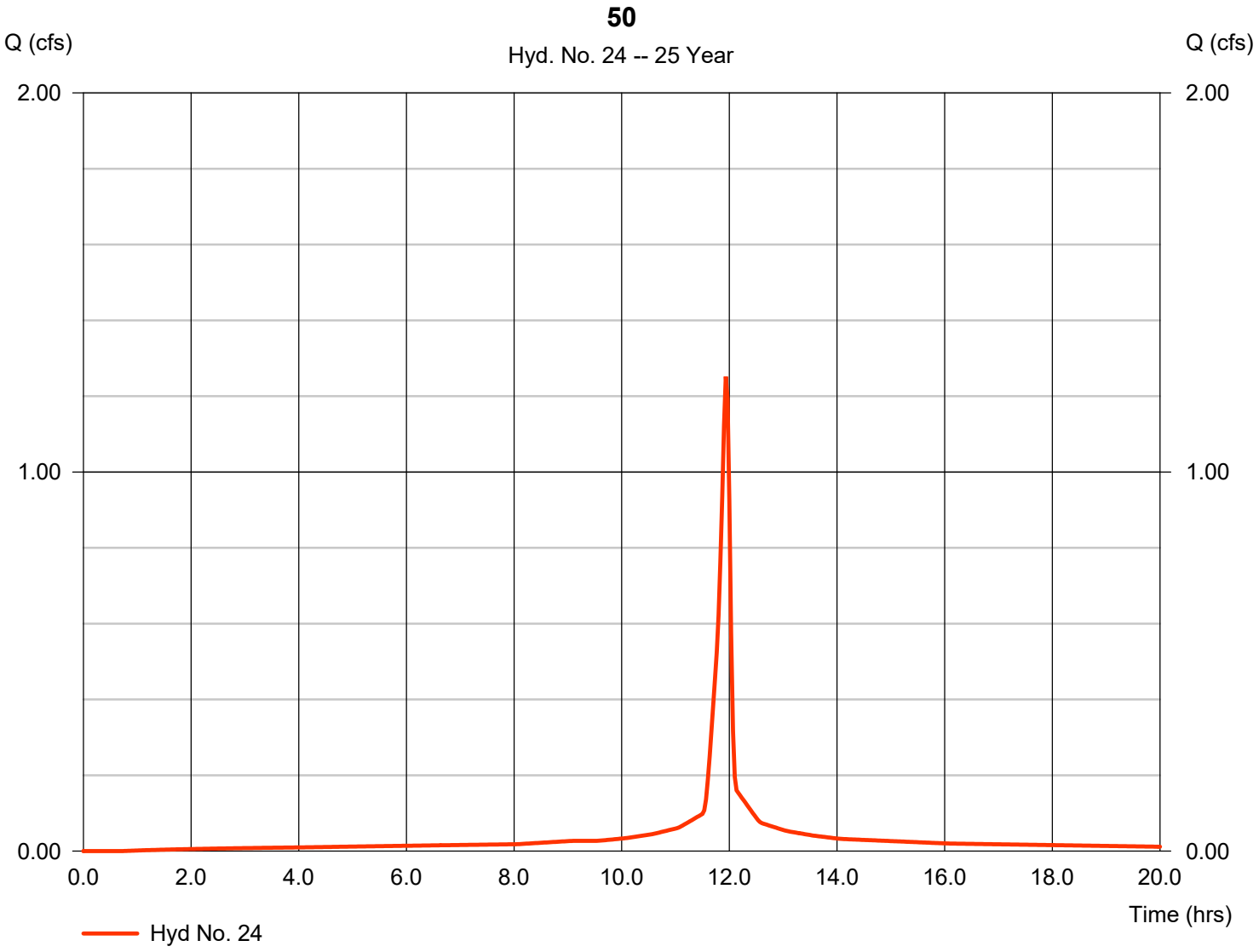


Hydrograph Report

Hyd. No. 24

50

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.252 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,008 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

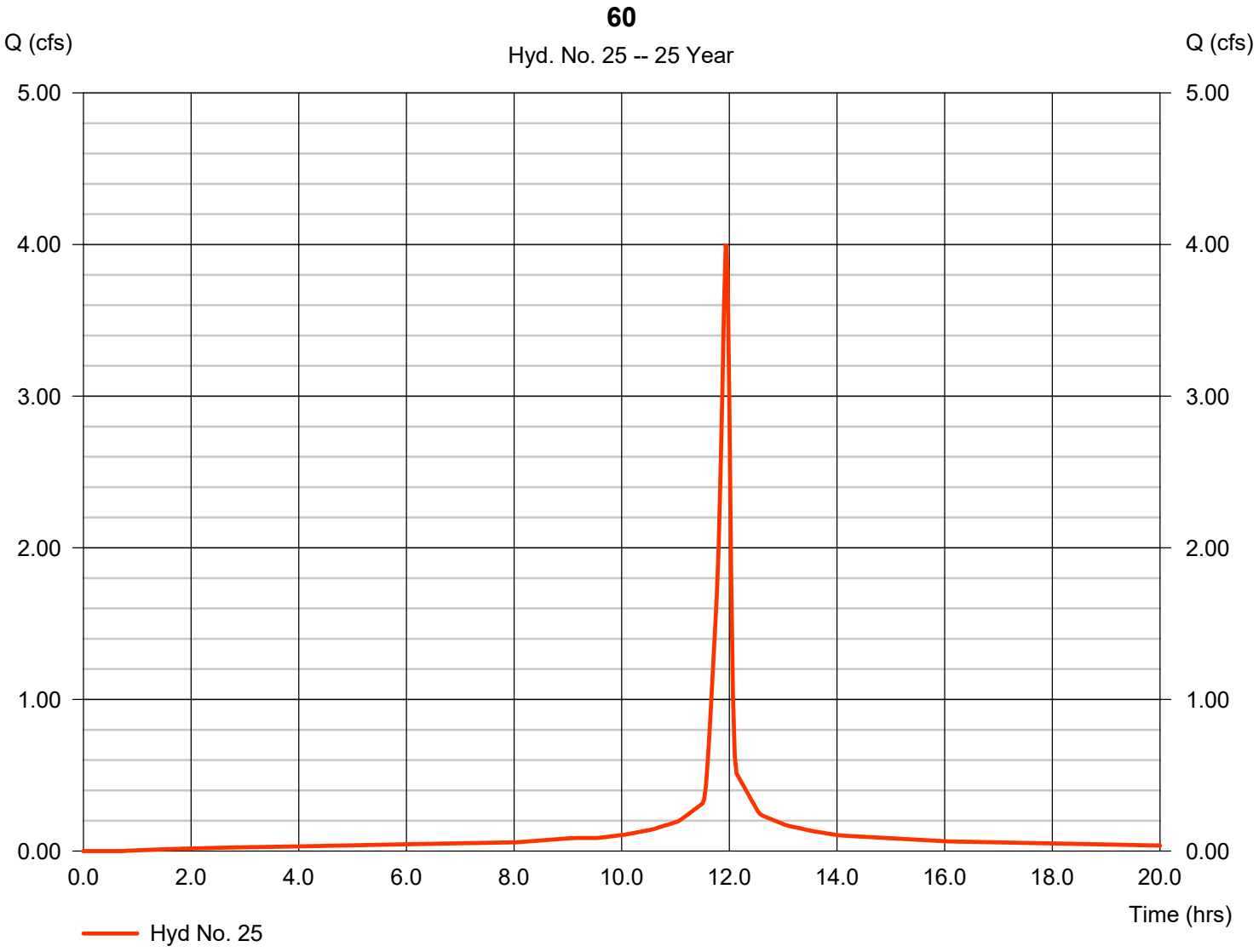


Hydrograph Report

Hyd. No. 25

60

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.006 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	9,624 cuft
Drainage area	=	0.480 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

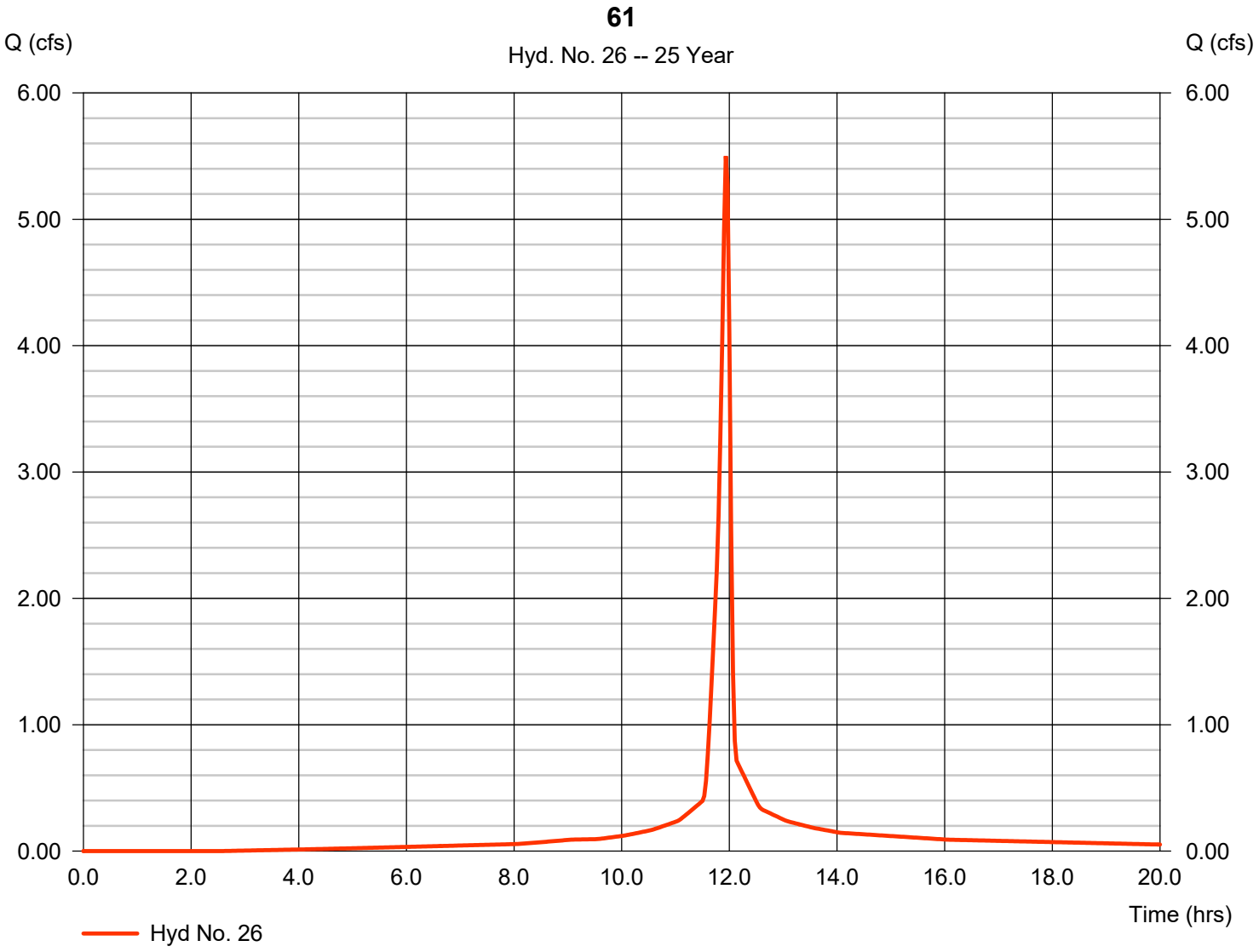


Hydrograph Report

Hyd. No. 26

61

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.500 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	12,231 cuft
Drainage area	=	0.690 ac	Curve number	=	92.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

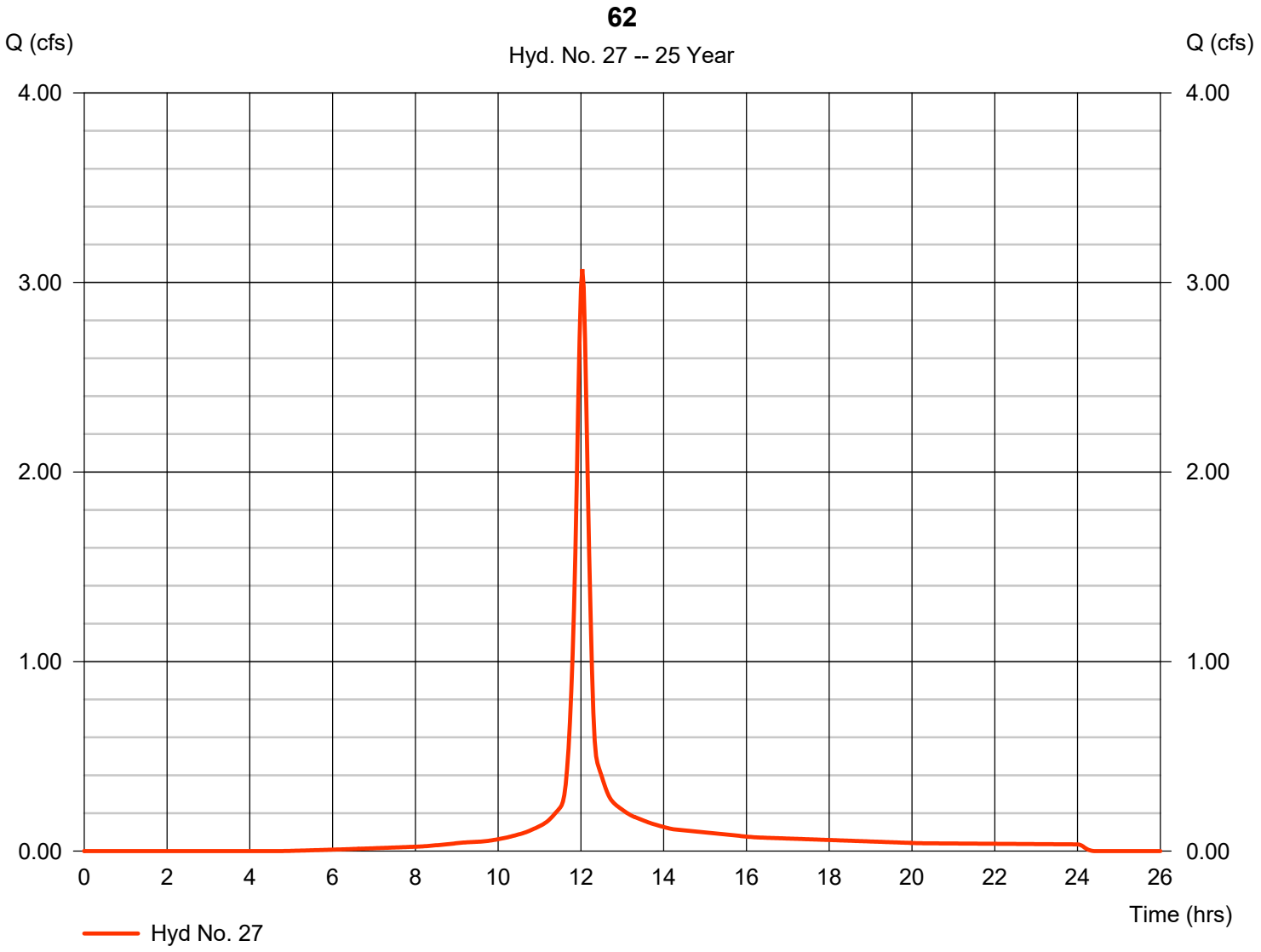


Hydrograph Report

Hyd. No. 27

62

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.070 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	8,813 cuft
Drainage area	=	0.560 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

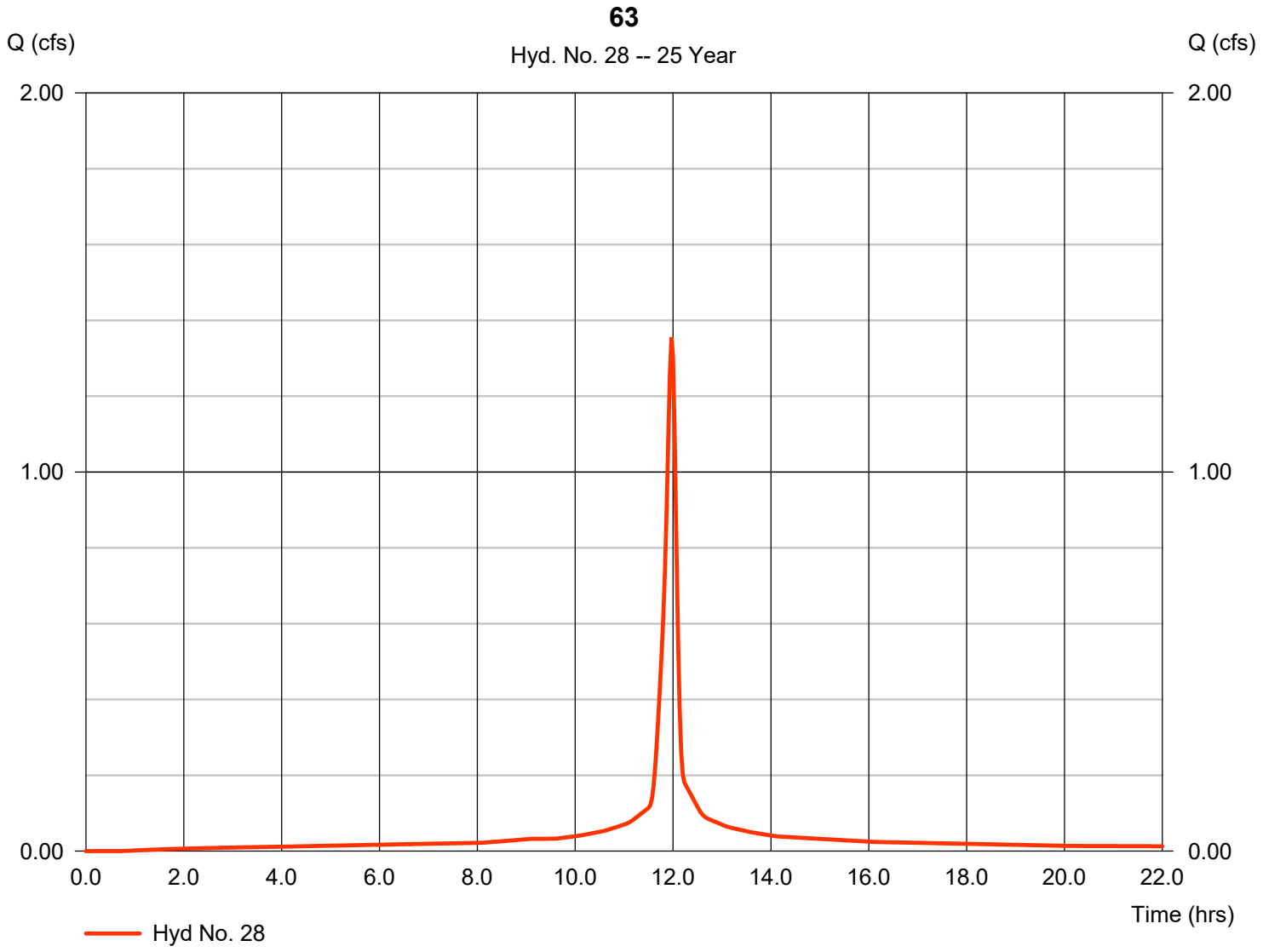


Hydrograph Report

Hyd. No. 28

63

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.356 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	3,636 cuft
Drainage area	=	0.170 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

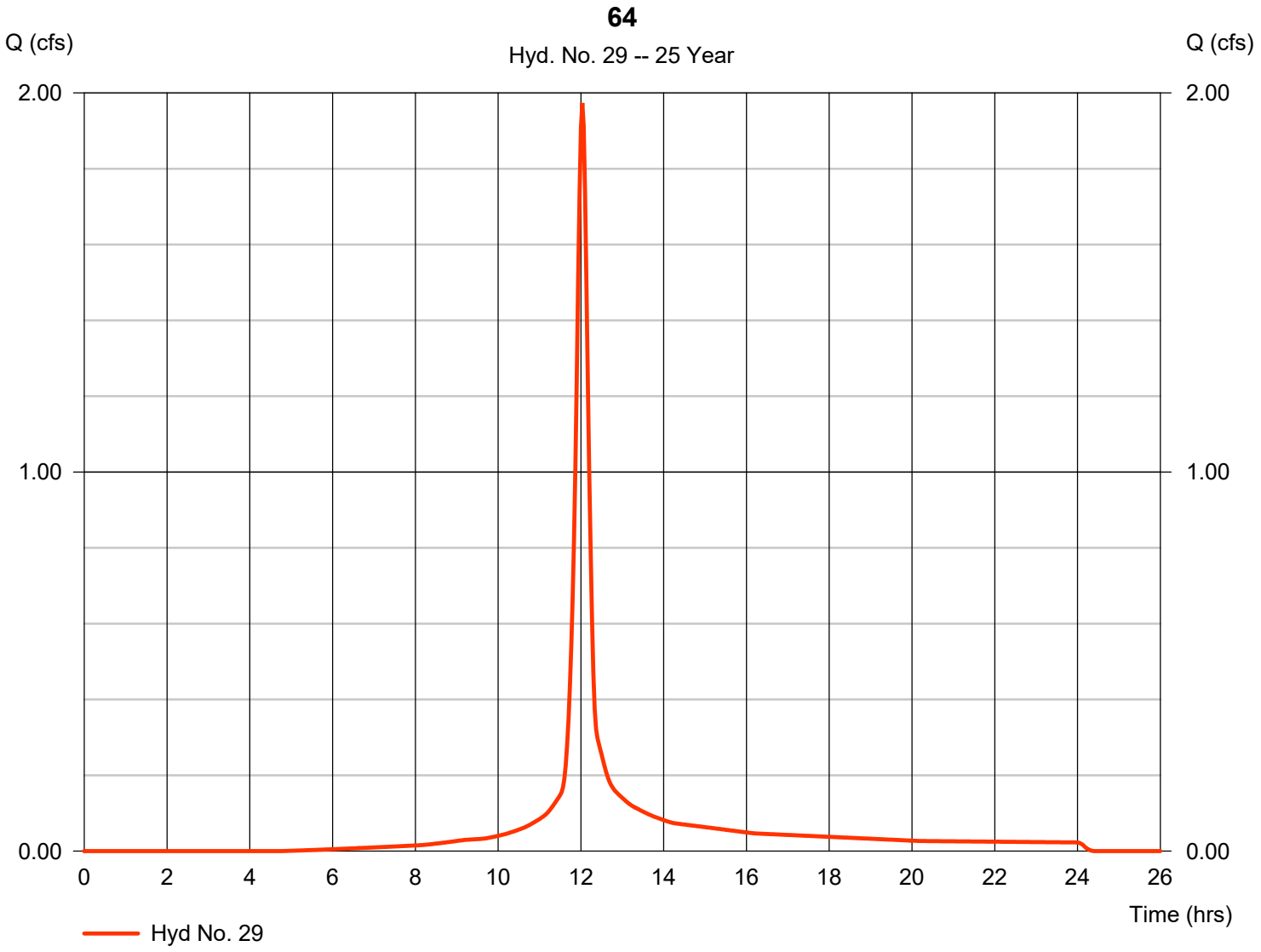


Hydrograph Report

Hyd. No. 29

64

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.973 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	5,666 cuft
Drainage area	=	0.360 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

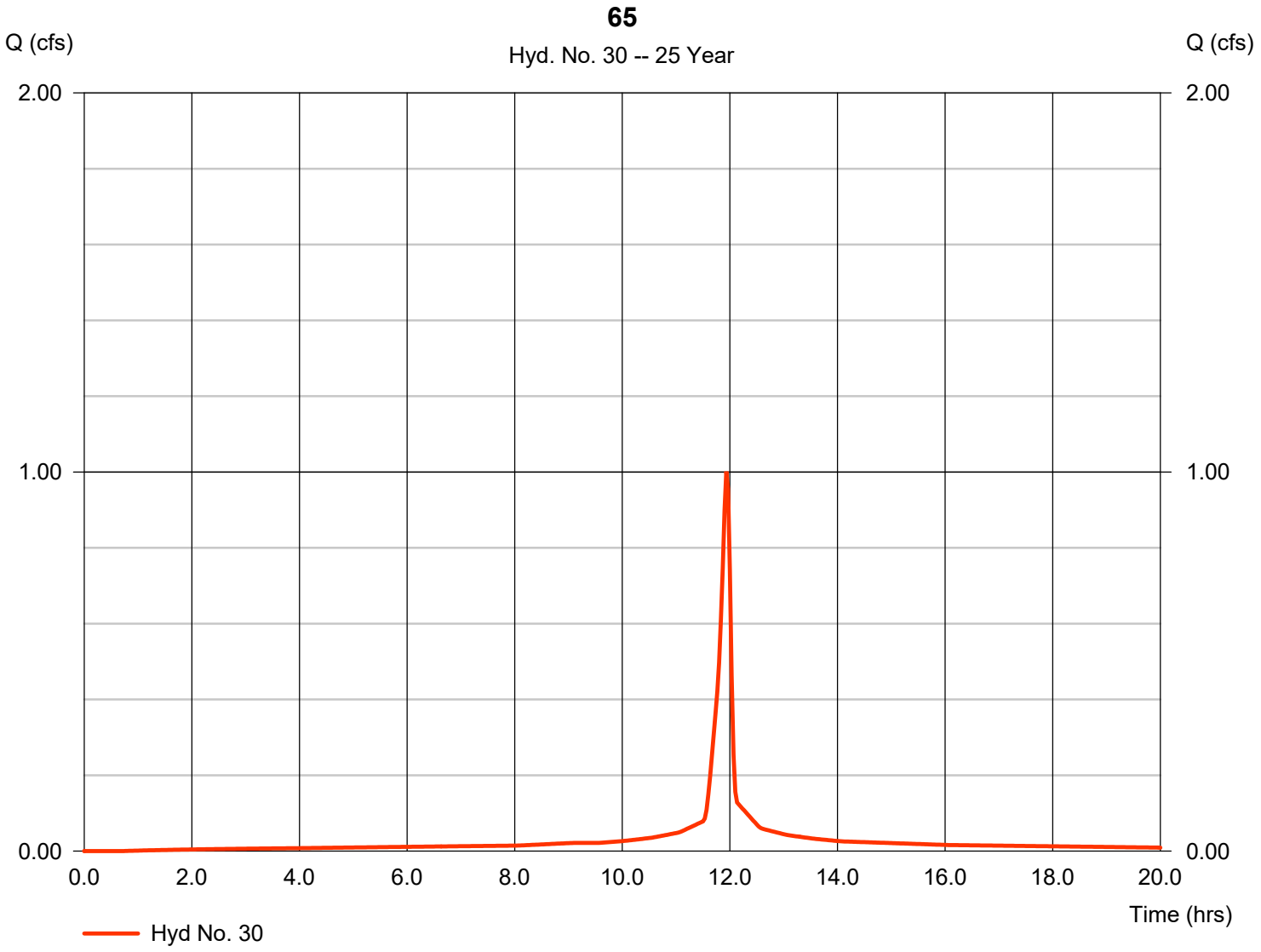


Hydrograph Report

Hyd. No. 30

65

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.001 cfs
Storm frequency	=	25 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,406 cuft
Drainage area	=	0.120 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.13 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

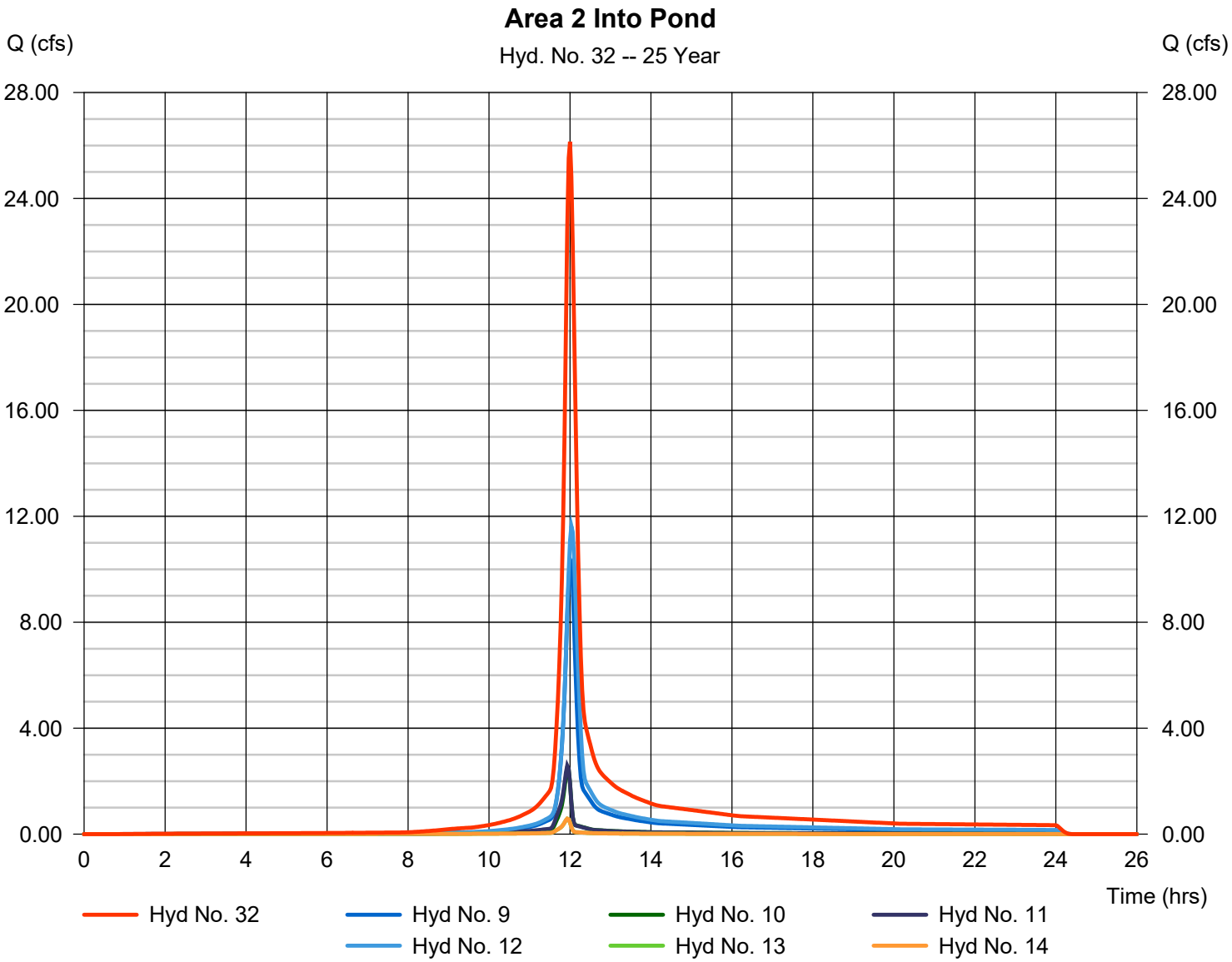


Hydrograph Report

Hyd. No. 32

Area 2 Into Pond

Hydrograph type	= Combine	Peak discharge	= 26.14 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 73,654 cuft
Inflow hyds.	= 9, 10, 11, 12, 13, 14	Contrib. drain. area	= 5.770 ac

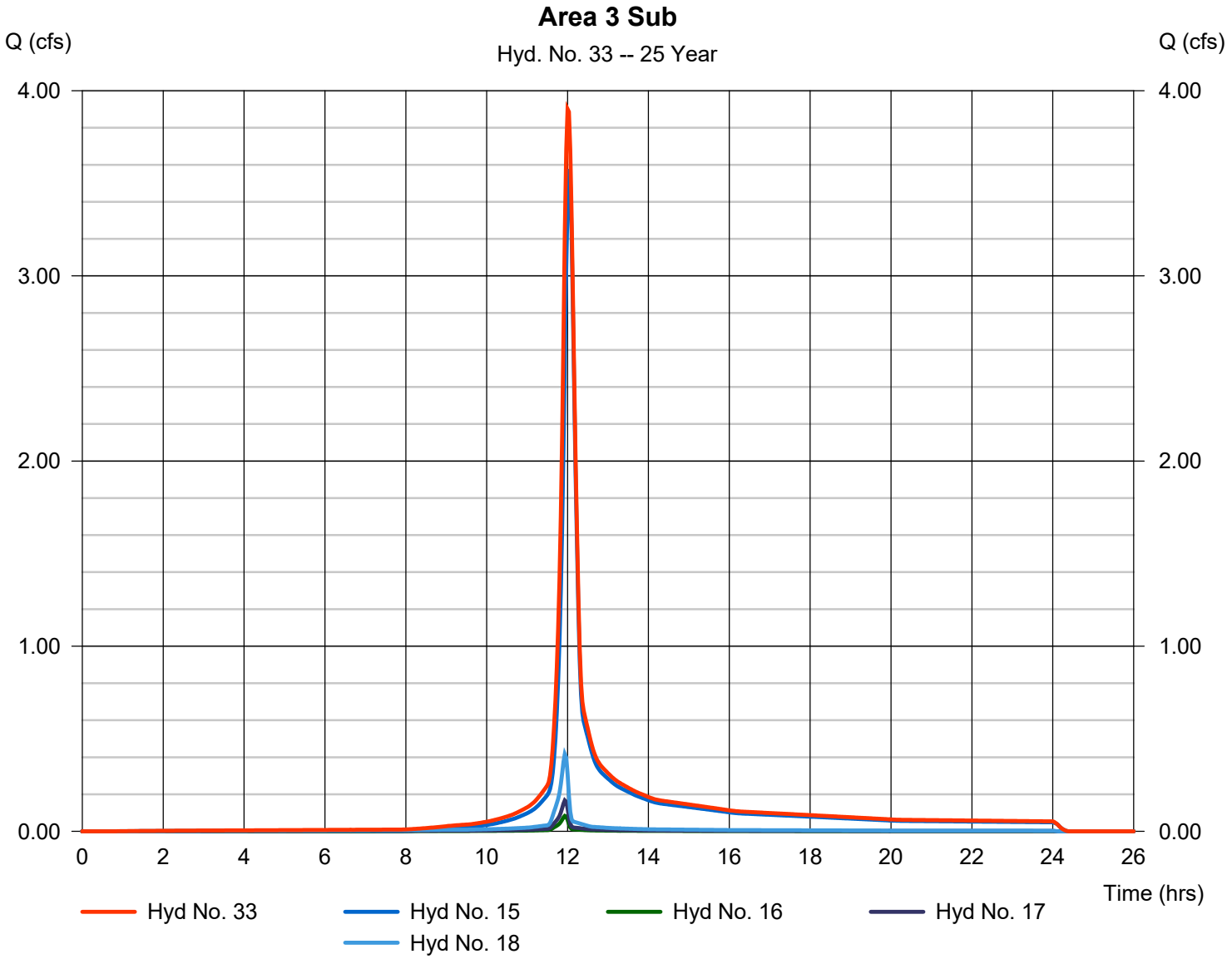


Hydrograph Report

Hyd. No. 33

Area 3 Sub

Hydrograph type	= Combine	Peak discharge	= 3.901 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 11,632 cuft
Inflow hyds.	= 15, 16, 17, 18	Contrib. drain. area	= 0.940 ac

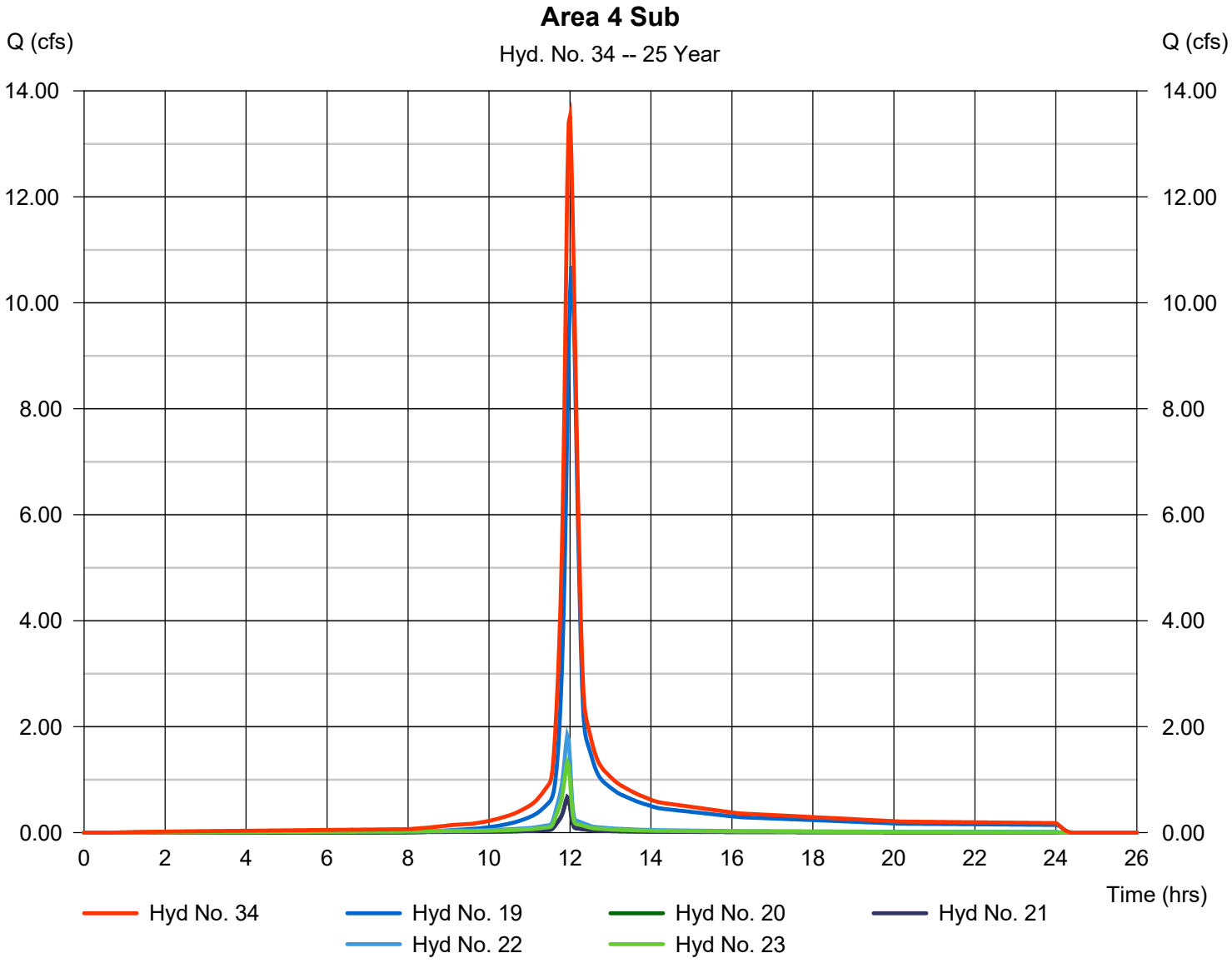


Hydrograph Report

Hyd. No. 34

Area 4 Sub

Hydrograph type	=	Combine	Peak discharge	=	13.52 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	40,794 cuft
Inflow hyds.	=	19, 20, 21, 22, 23	Contrib. drain. area	=	3.110 ac

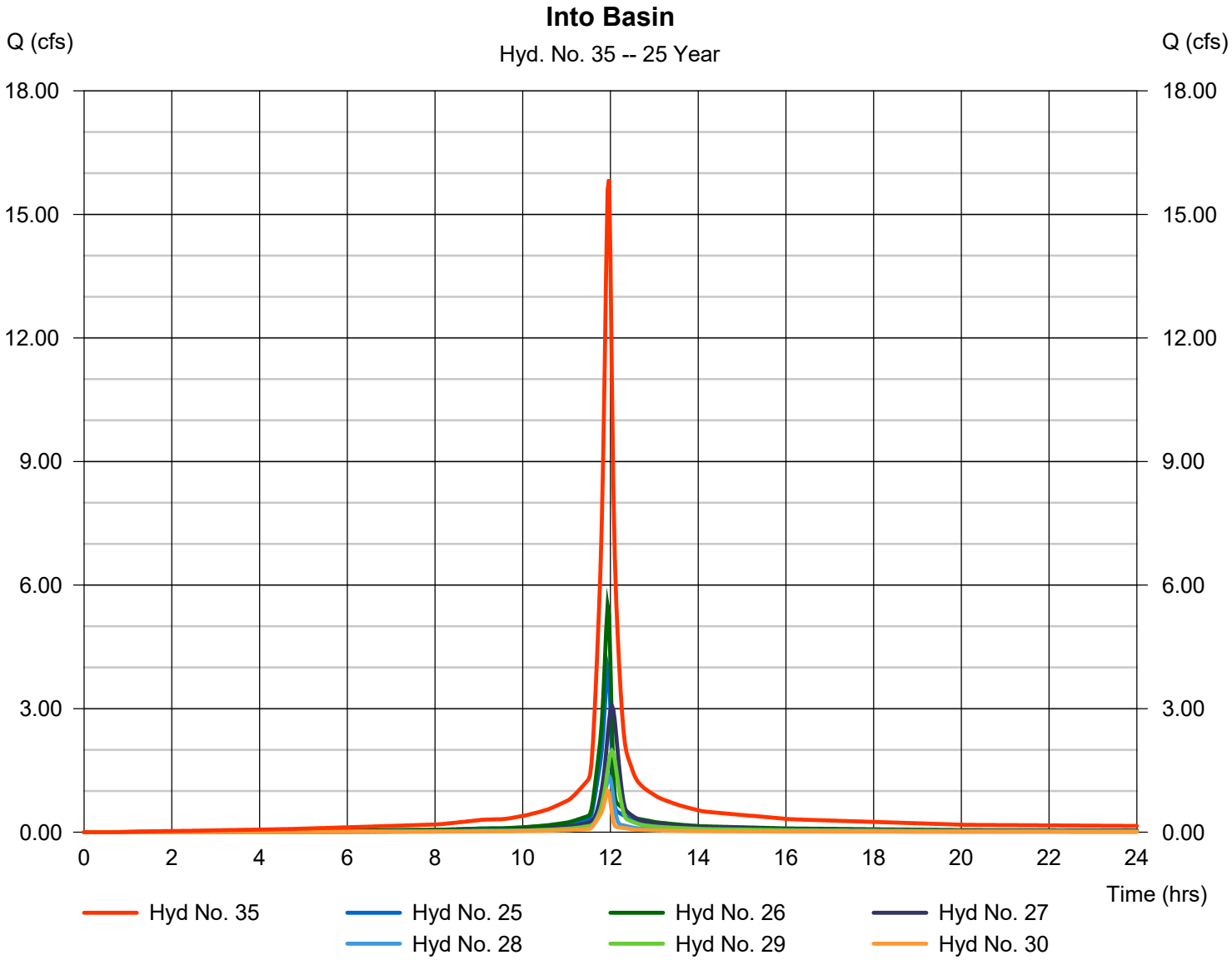


Hydrograph Report

Hyd. No. 35

Into Basin

Hydrograph type	= Combine	Peak discharge	= 15.85 cfs
Storm frequency	= 25 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 42,376 cuft
Inflow hyds.	= 25, 26, 27, 28, 29, 30	Contrib. drain. area	= 2.380 ac



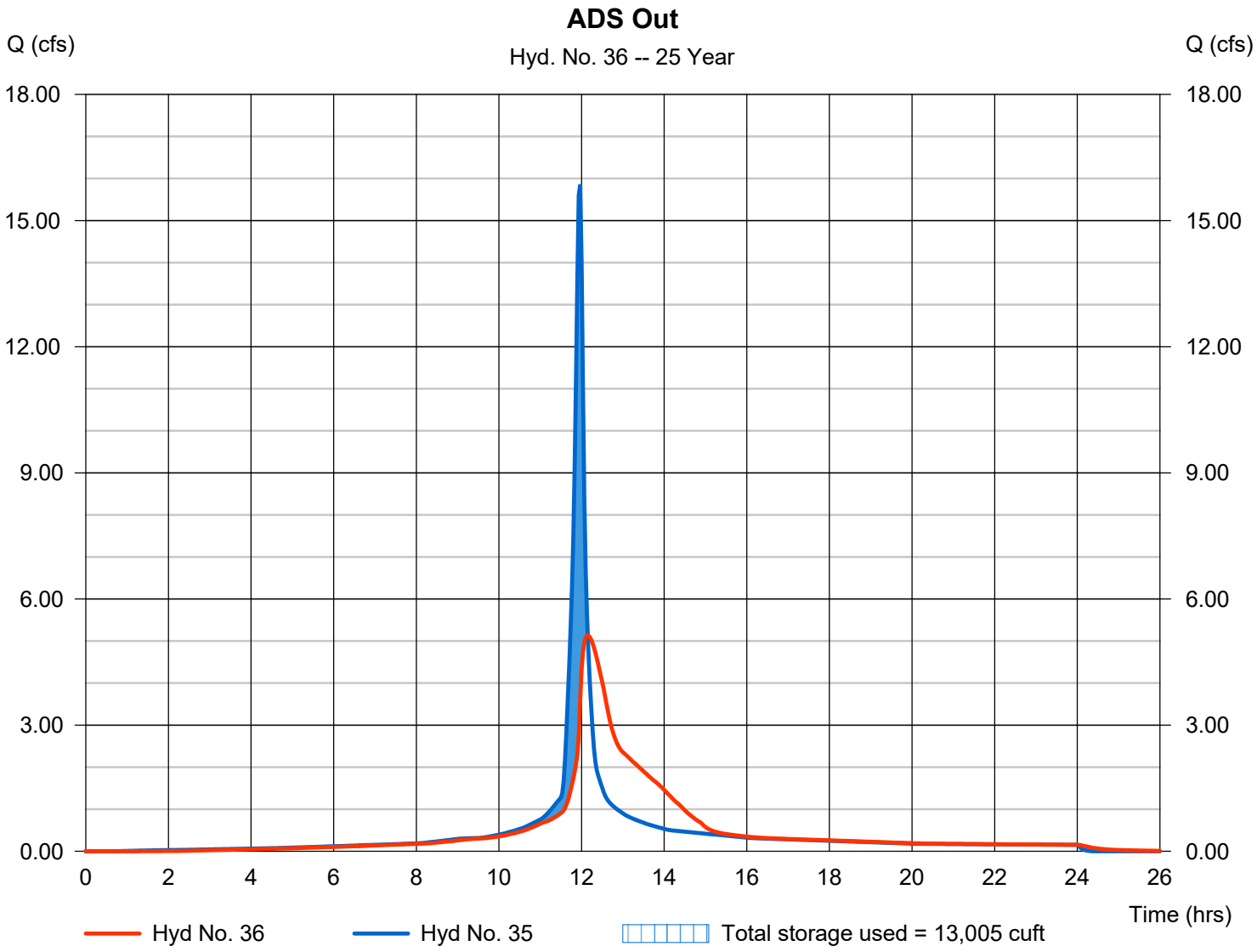
Hydrograph Report

Hyd. No. 36

ADS Out

Hydrograph type	=	Reservoir	Peak discharge	=	5.131 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.17 hrs
Time interval	=	2 min	Hyd. volume	=	42,366 cuft
Inflow hyd. No.	=	35 - Into Basin	Max. Elevation	=	1256.25 ft
Reservoir name	=	ADS	Max. Storage	=	13,005 cuft

Storage Indication method used.

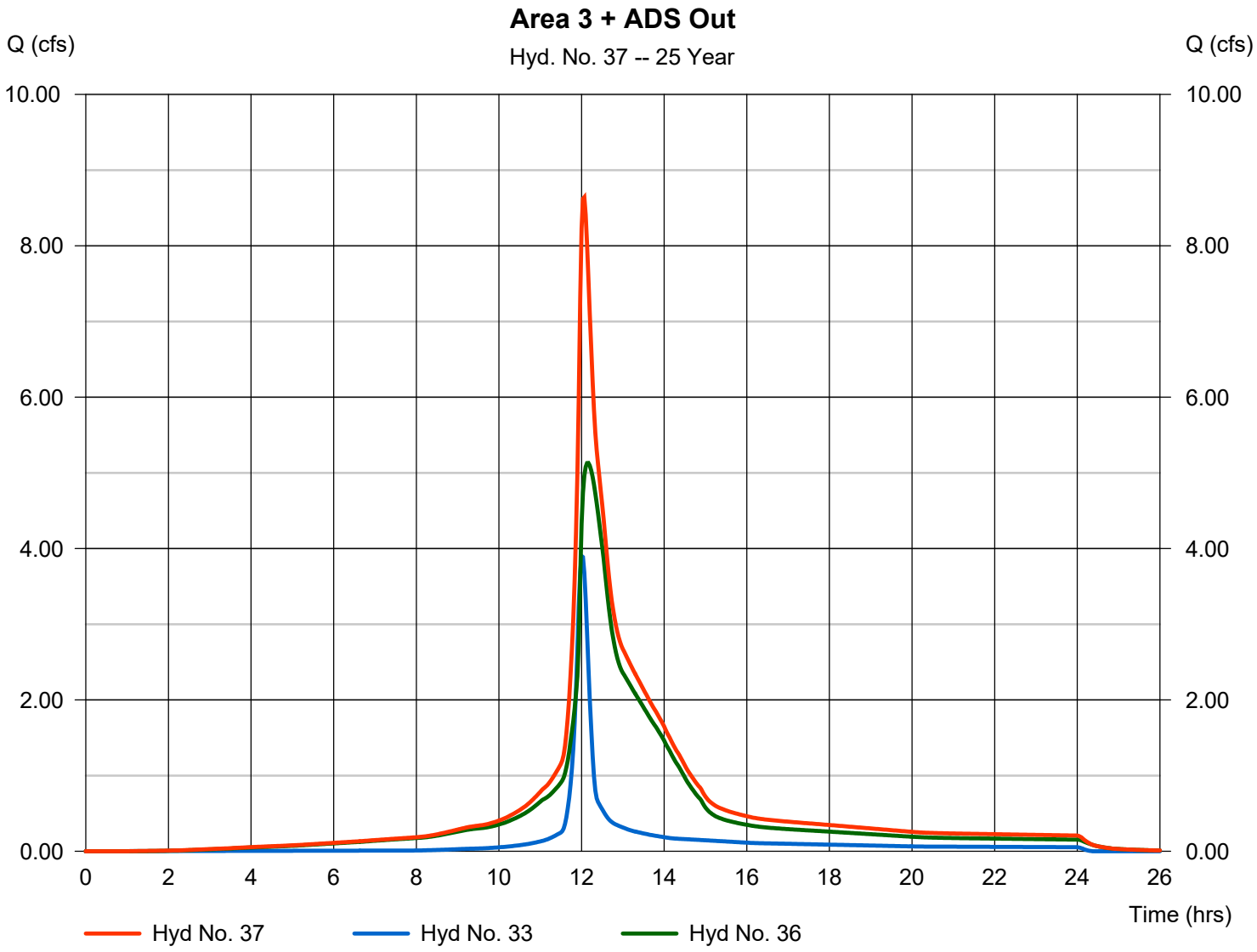


Hydrograph Report

Hyd. No. 37

Area 3 + ADS Out

Hydrograph type	=	Combine	Peak discharge	=	8.642 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	53,997 cuft
Inflow hyds.	=	33, 36	Contrib. drain. area	=	0.000 ac

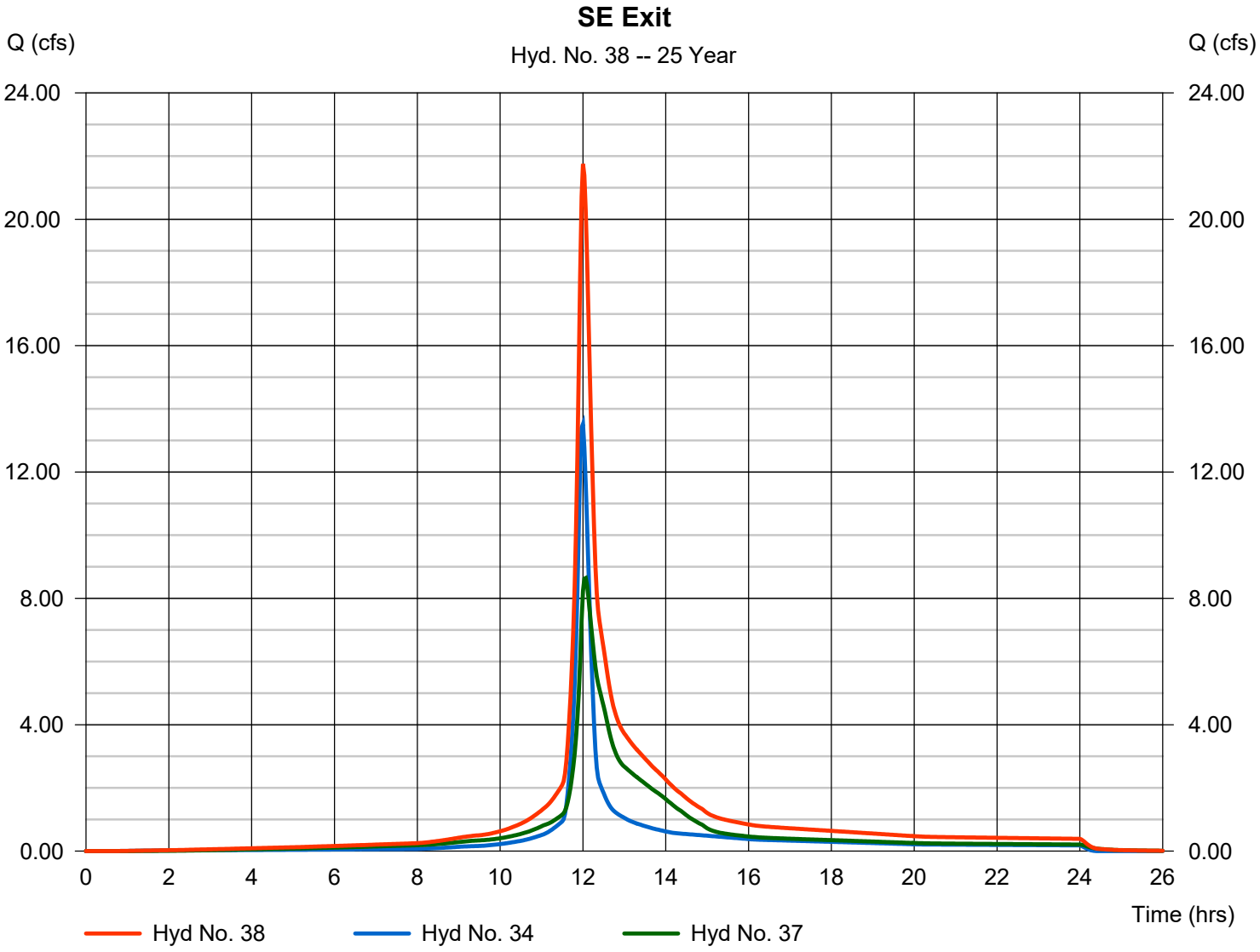


Hydrograph Report

Hyd. No. 38

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	21.75 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	94,791 cuft
Inflow hyds.	=	34, 37	Contrib. drain. area	=	0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	13.66	2	722	38,317	------	------	------	1
2	SCS Runoff	32.71	2	718	75,092	------	------	------	2
3	SCS Runoff	12.19	2	720	31,639	------	------	------	3
4	SCS Runoff	15.43	2	722	43,302	------	------	------	4
5	SCS Runoff	0.558	2	722	1,567	------	------	------	5
6	Combine	27.44	2	722	74,941	3, 4,	------	------	SE Exit
8	SCS Runoff	4.599	2	720	12,215	------	------	------	10
9	SCS Runoff	12.65	2	720	32,844	------	------	------	20
10	SCS Runoff	2.945	2	716	6,153	------	------	------	21
11	SCS Runoff	2.948	2	716	7,111	------	------	------	22
12	SCS Runoff	14.17	2	722	39,771	------	------	------	23
13	SCS Runoff	0.666	2	716	1,606	------	------	------	24
14	SCS Runoff	0.666	2	716	1,606	------	------	------	25
15	SCS Runoff	4.366	2	722	12,250	------	------	------	30
16	SCS Runoff	0.095	2	716	229	------	------	------	31
17	SCS Runoff	0.190	2	716	459	------	------	------	32
18	SCS Runoff	0.476	2	716	1,147	------	------	------	33
19	SCS Runoff	13.05	2	722	36,608	------	------	------	40
20	SCS Runoff	0.761	2	716	1,835	------	------	------	41
21	SCS Runoff	0.761	2	716	1,835	------	------	------	42
22	SCS Runoff	2.092	2	716	5,047	------	------	------	43
23	SCS Runoff	1.522	2	716	3,670	------	------	------	44
24	SCS Runoff	1.427	2	716	3,441	------	------	------	50
25	SCS Runoff	4.565	2	716	11,011	------	------	------	60
26	SCS Runoff	6.324	2	716	14,199	------	------	------	61
27	SCS Runoff	3.600	2	722	10,417	------	------	------	62
28	SCS Runoff	1.545	2	718	4,160	------	------	------	63
29	SCS Runoff	2.314	2	722	6,697	------	------	------	64
30	SCS Runoff	1.141	2	716	2,753	------	------	------	65
32	Combine	31.62	2	720	89,091	9, 10, 11, 12, 13, 14,	------	------	Area 2 Into Pond
33	Combine	4.736	2	720	14,085	15, 16, 17, 18,	------	------	Area 3 Sub
34	Combine	16.27	2	720	48,995	19, 20, 21, 22, 23,	------	------	Area 4 Sub
35	Combine	18.28	2	718	49,237	25, 26, 27, 28, 29, 30,	------	------	Into Basin

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

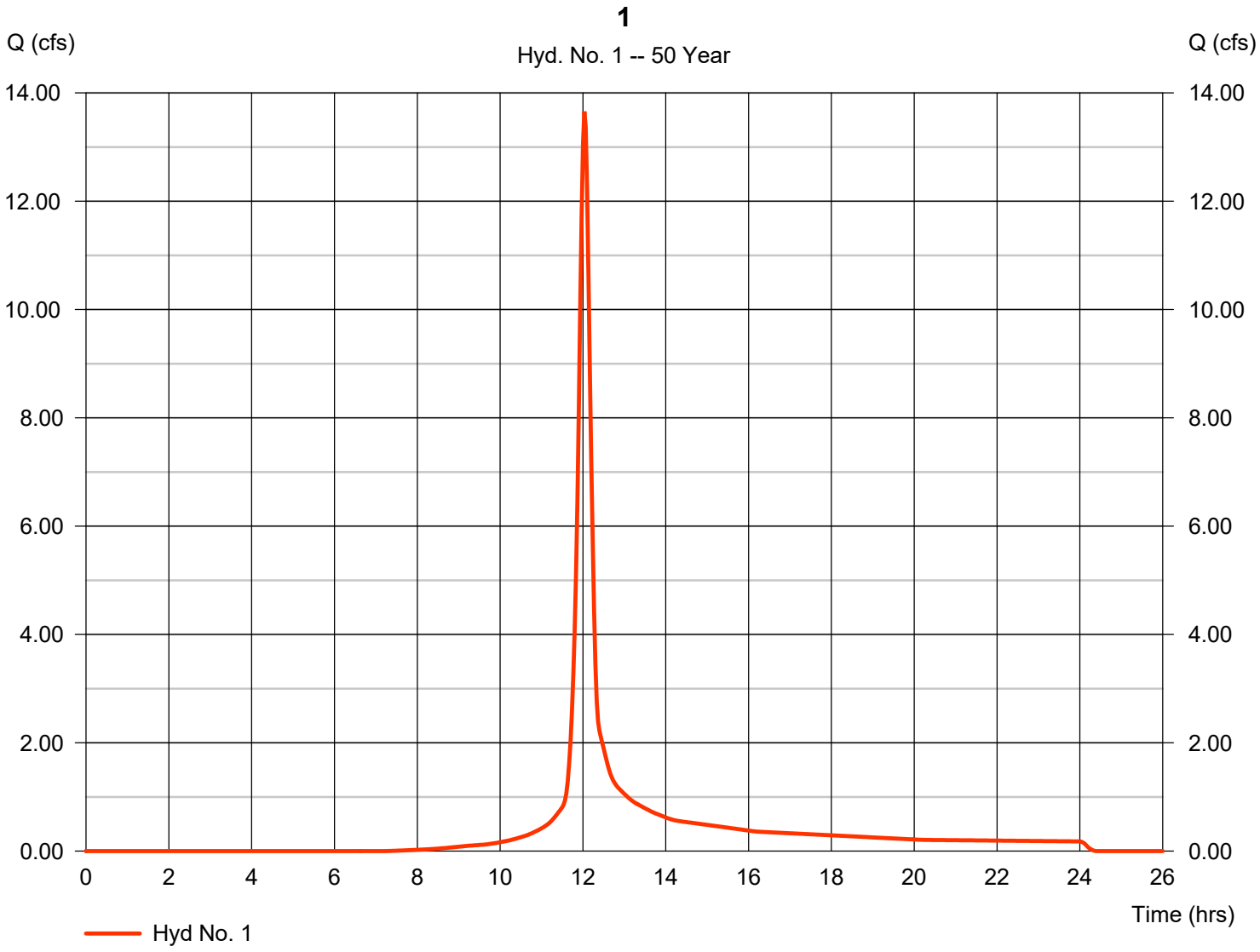
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
36	Reservoir	6.101	2	728	49,227	35	1256.85	15,091	ADS Out
37	Combine	10.21	2	722	63,312	33, 36	------	------	Area 3 + ADS Out
38	Combine	26.07	2	720	112,307	34, 37	------	------	SE Exit

Hydrograph Report

Hyd. No. 1

1

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.66 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	38,317 cuft
Drainage area	=	2.690 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	14.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

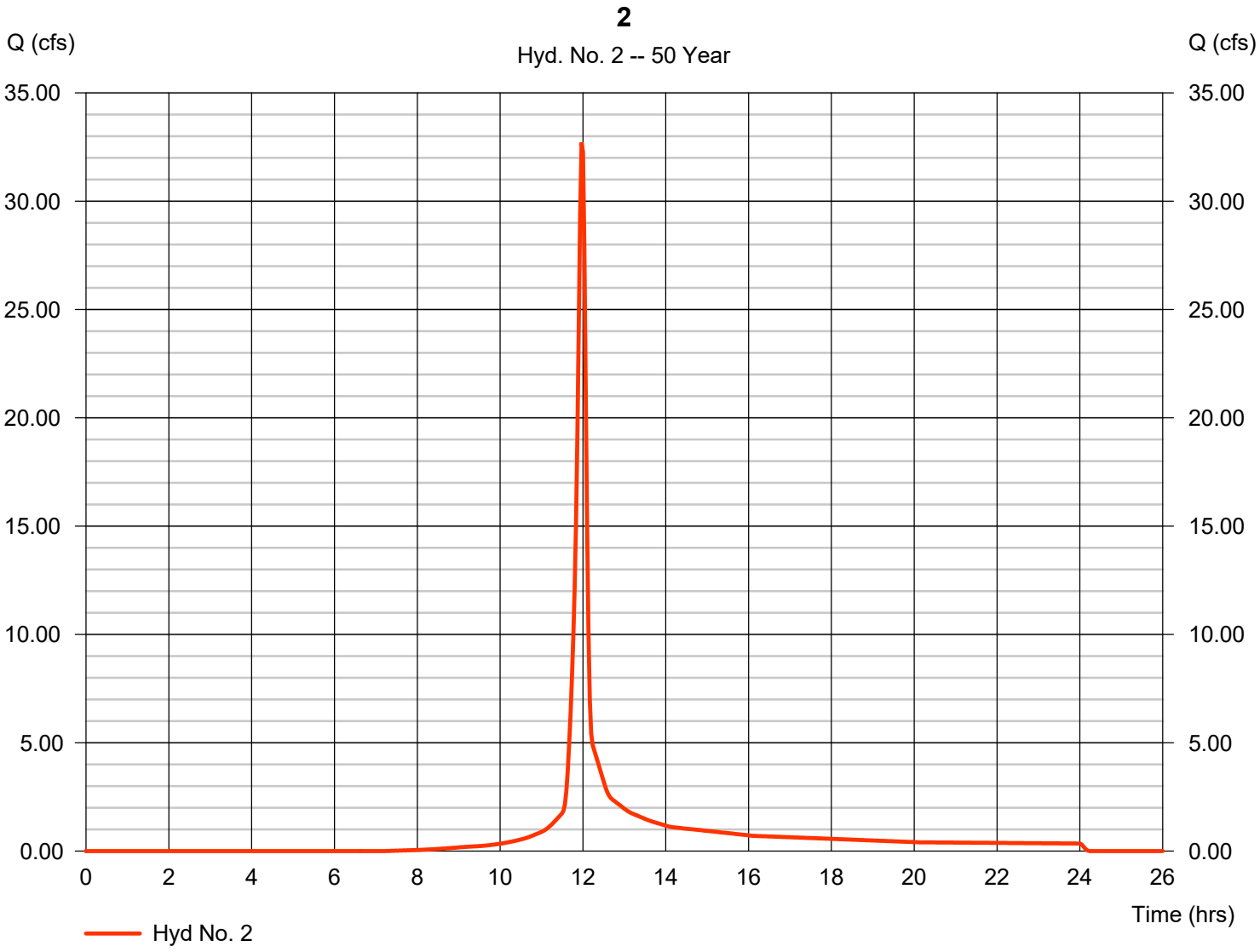


Hydrograph Report

Hyd. No. 2

2

Hydrograph type	=	SCS Runoff	Peak discharge	=	32.71 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	75,092 cuft
Drainage area	=	5.140 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

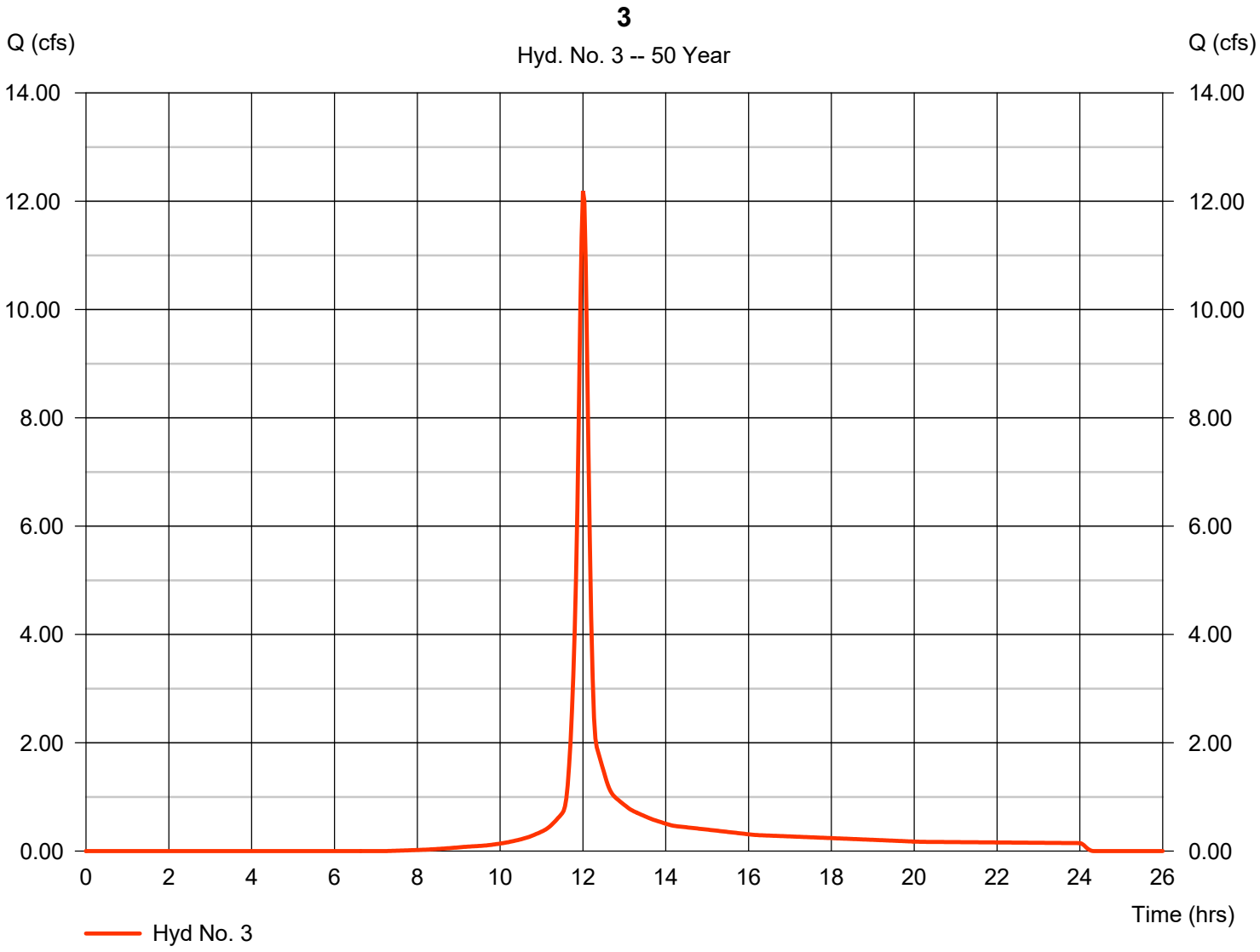


Hydrograph Report

Hyd. No. 3

3

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.19 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	31,639 cuft
Drainage area	=	2.100 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	13.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

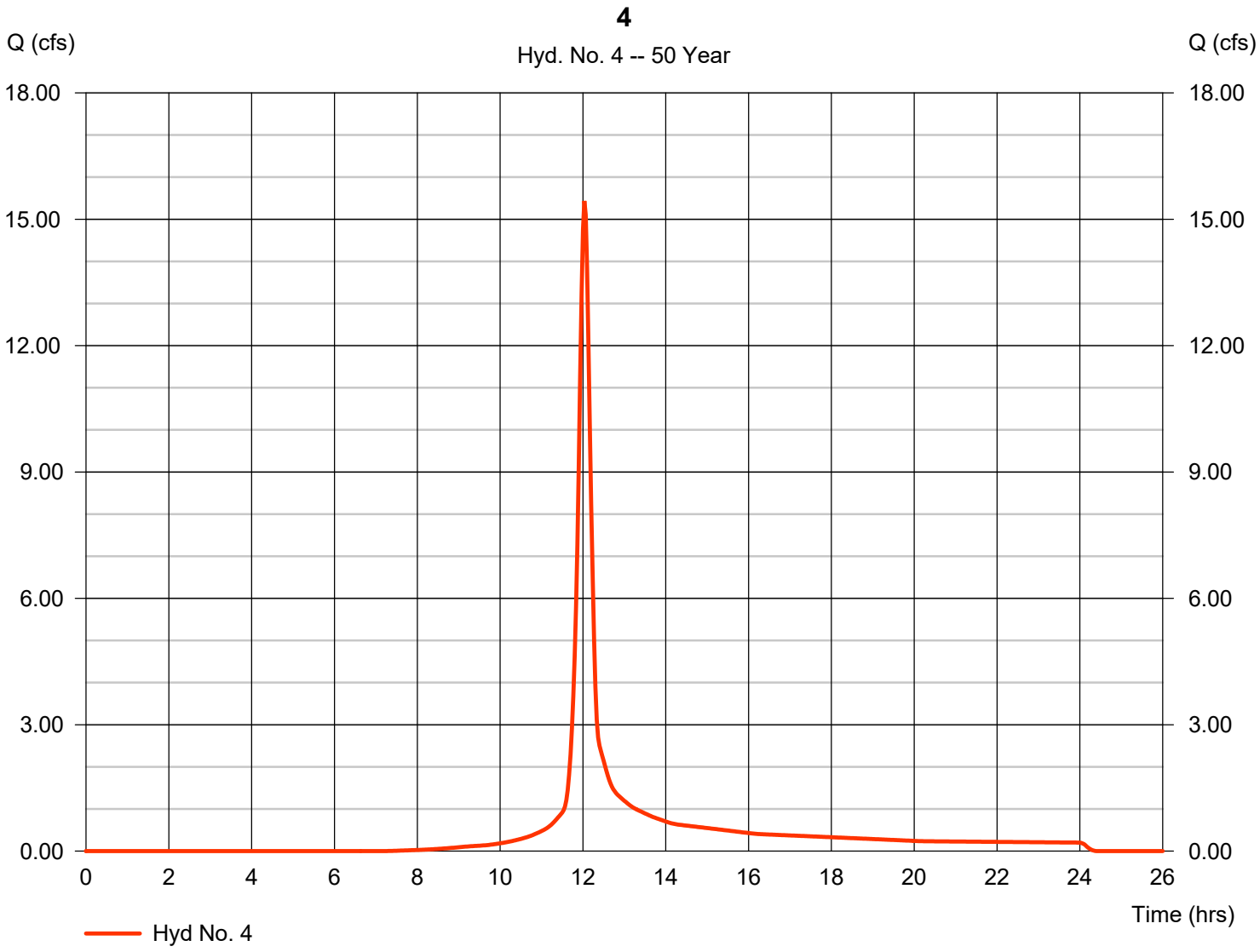


Hydrograph Report

Hyd. No. 4

4

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.43 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	43,302 cuft
Drainage area	=	3.040 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

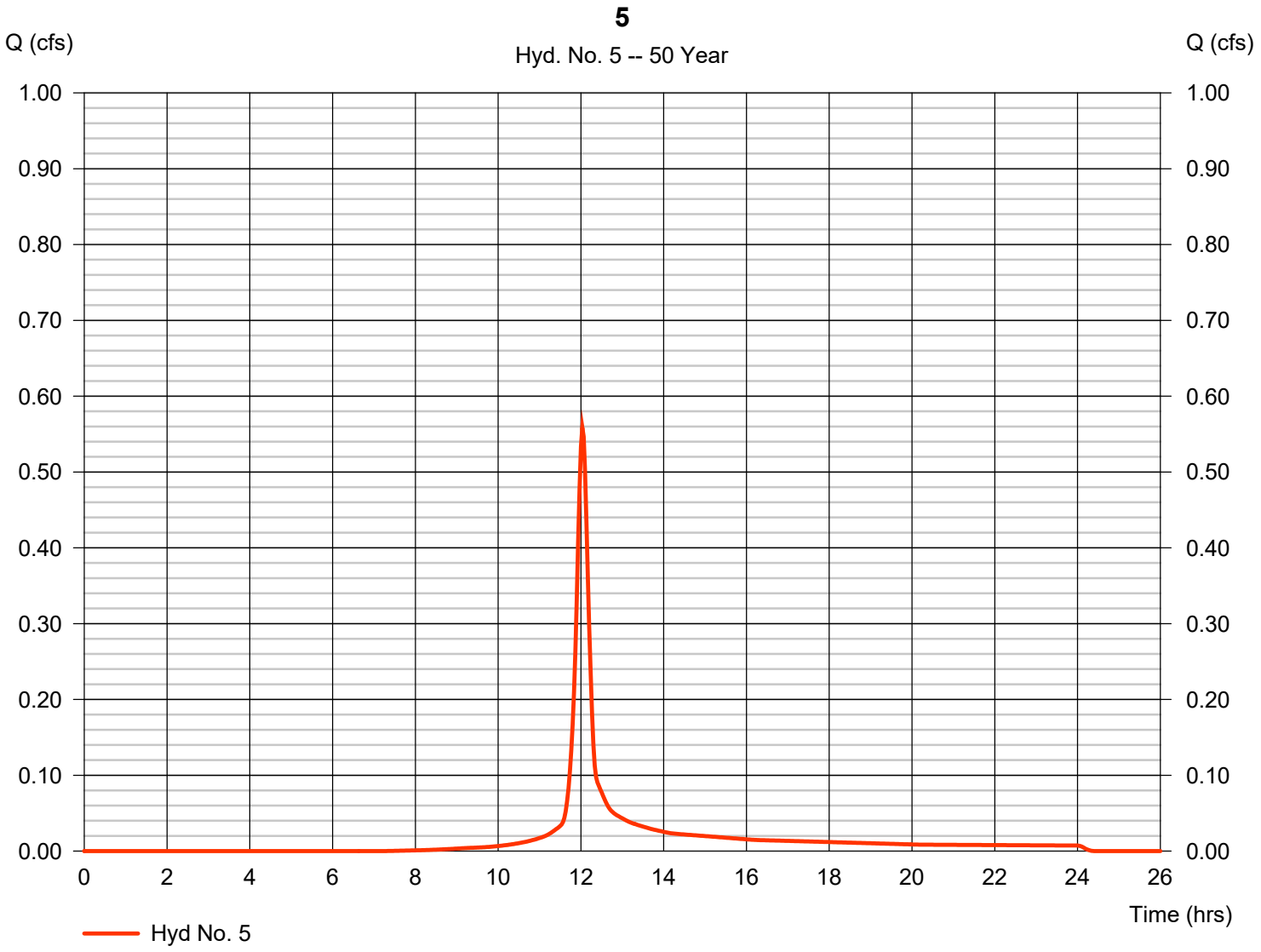


Hydrograph Report

Hyd. No. 5

5

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.558 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,567 cuft
Drainage area	=	0.110 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

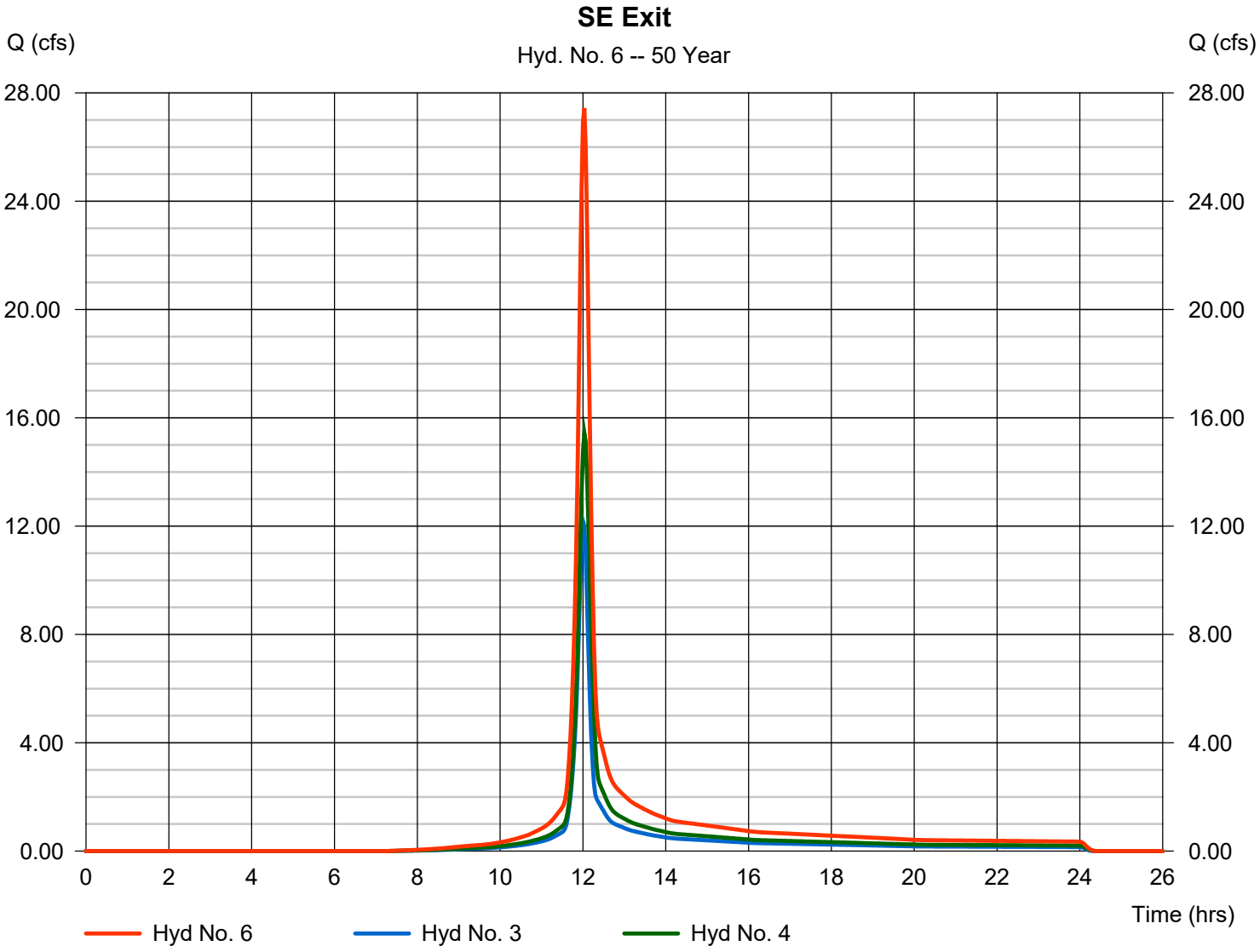


Hydrograph Report

Hyd. No. 6

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	27.44 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	74,941 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	5.140 ac

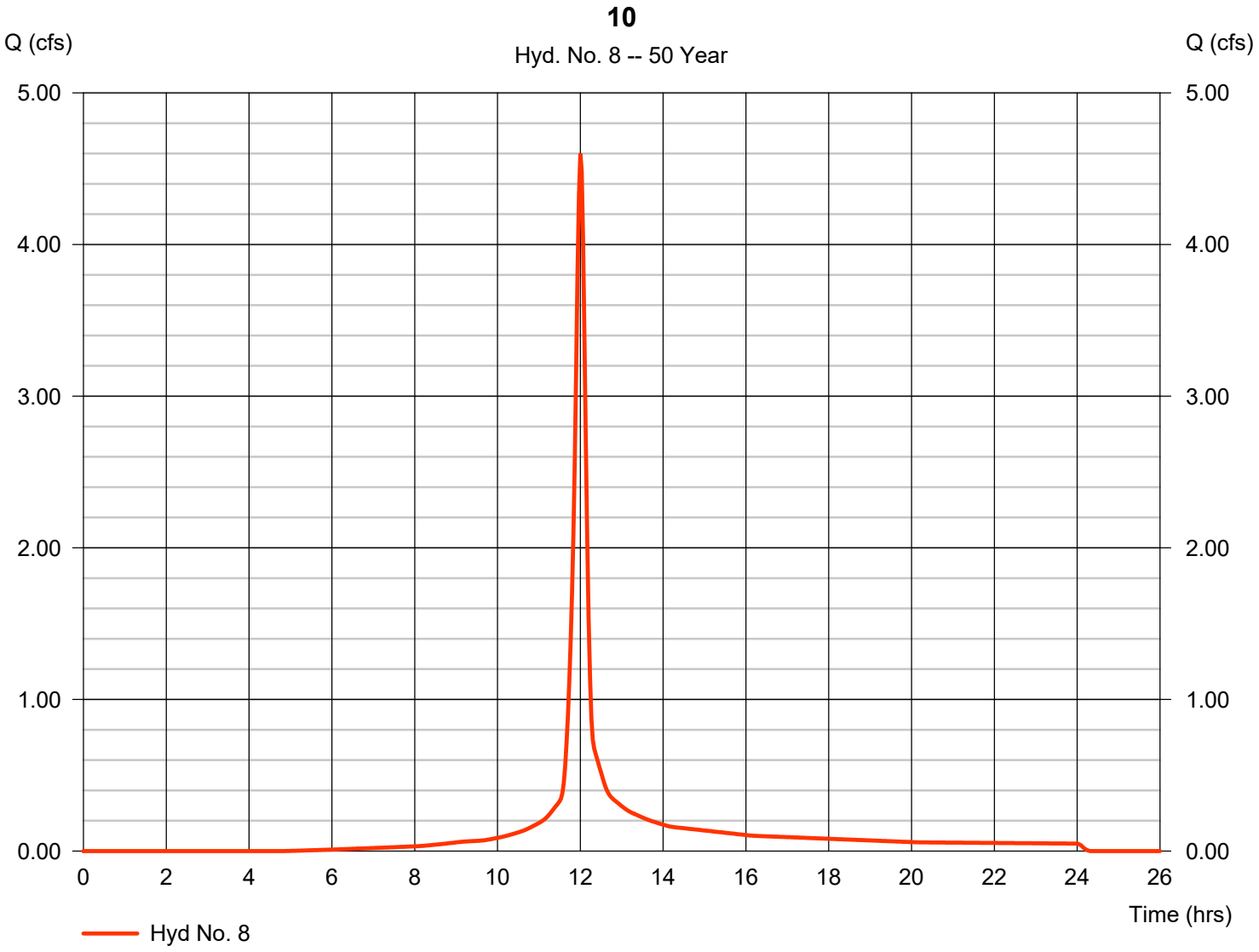


Hydrograph Report

Hyd. No. 8

10

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.599 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	12,215 cuft
Drainage area	=	0.650 ac	Curve number	=	83.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

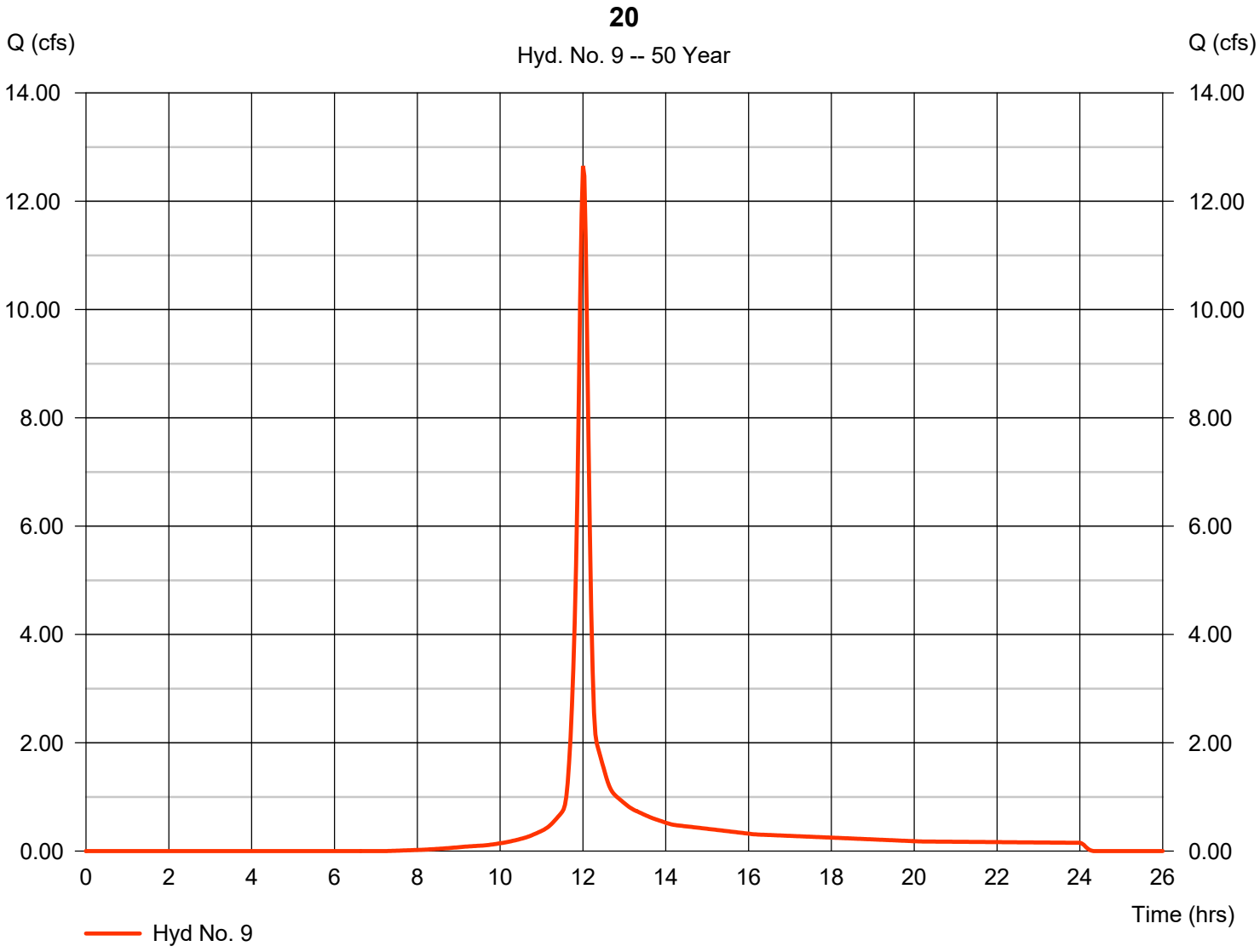


Hydrograph Report

Hyd. No. 9

20

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.65 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	32,844 cuft
Drainage area	=	2.180 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	12.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

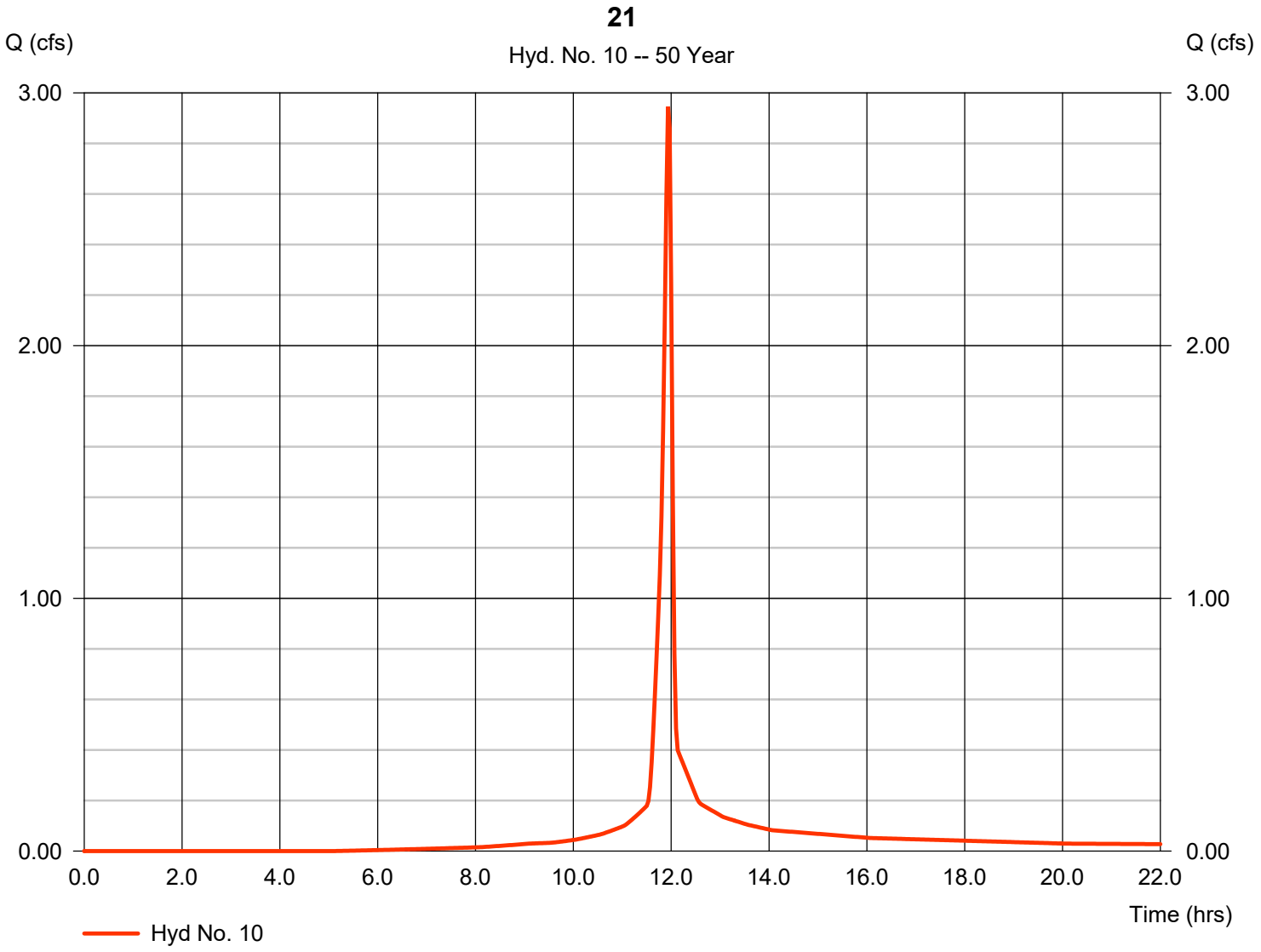


Hydrograph Report

Hyd. No. 10

21

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.945 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	6,153 cuft
Drainage area	=	0.370 ac	Curve number	=	81.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

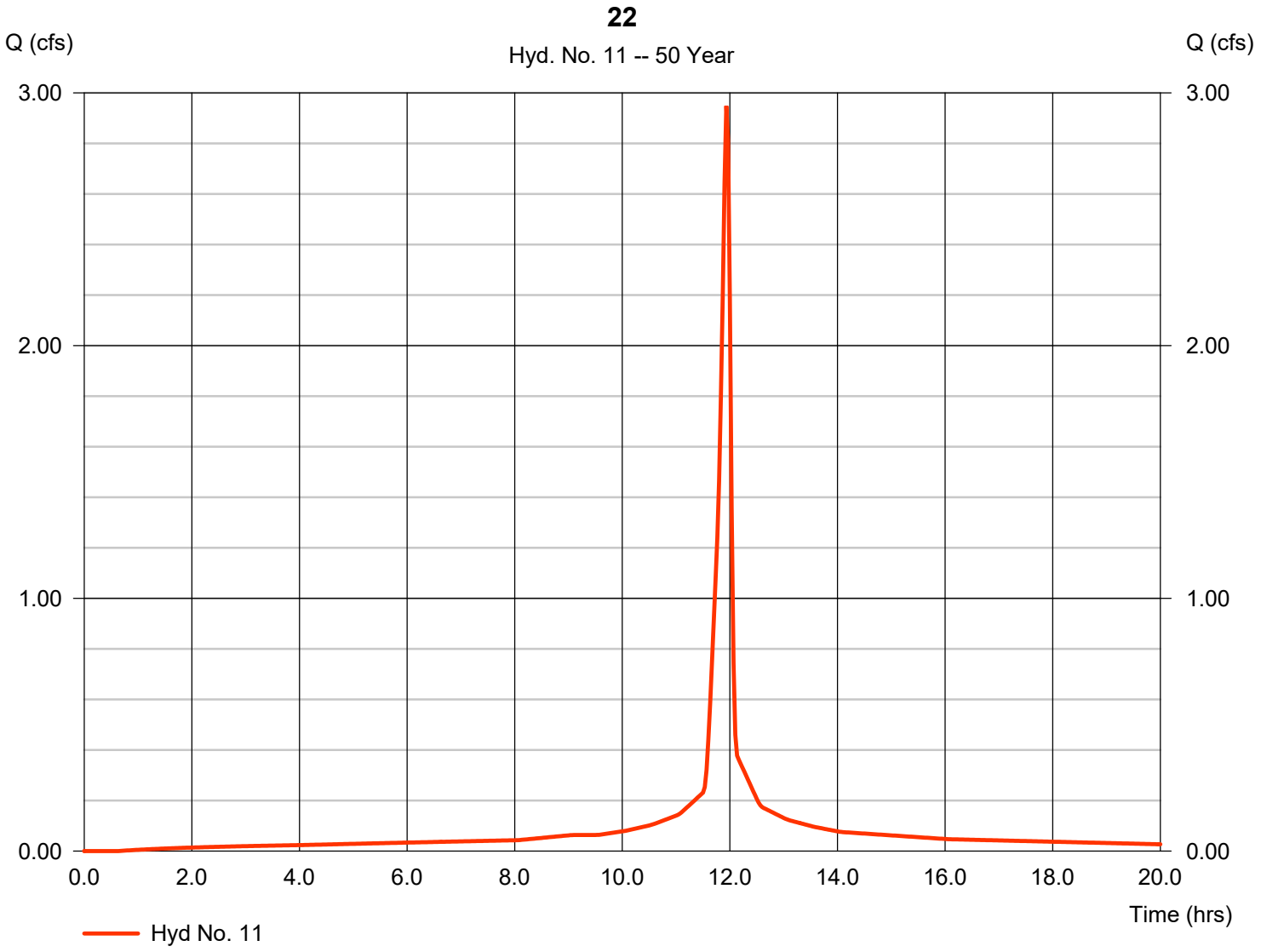


Hydrograph Report

Hyd. No. 11

22

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.948 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	7,111 cuft
Drainage area	=	0.310 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

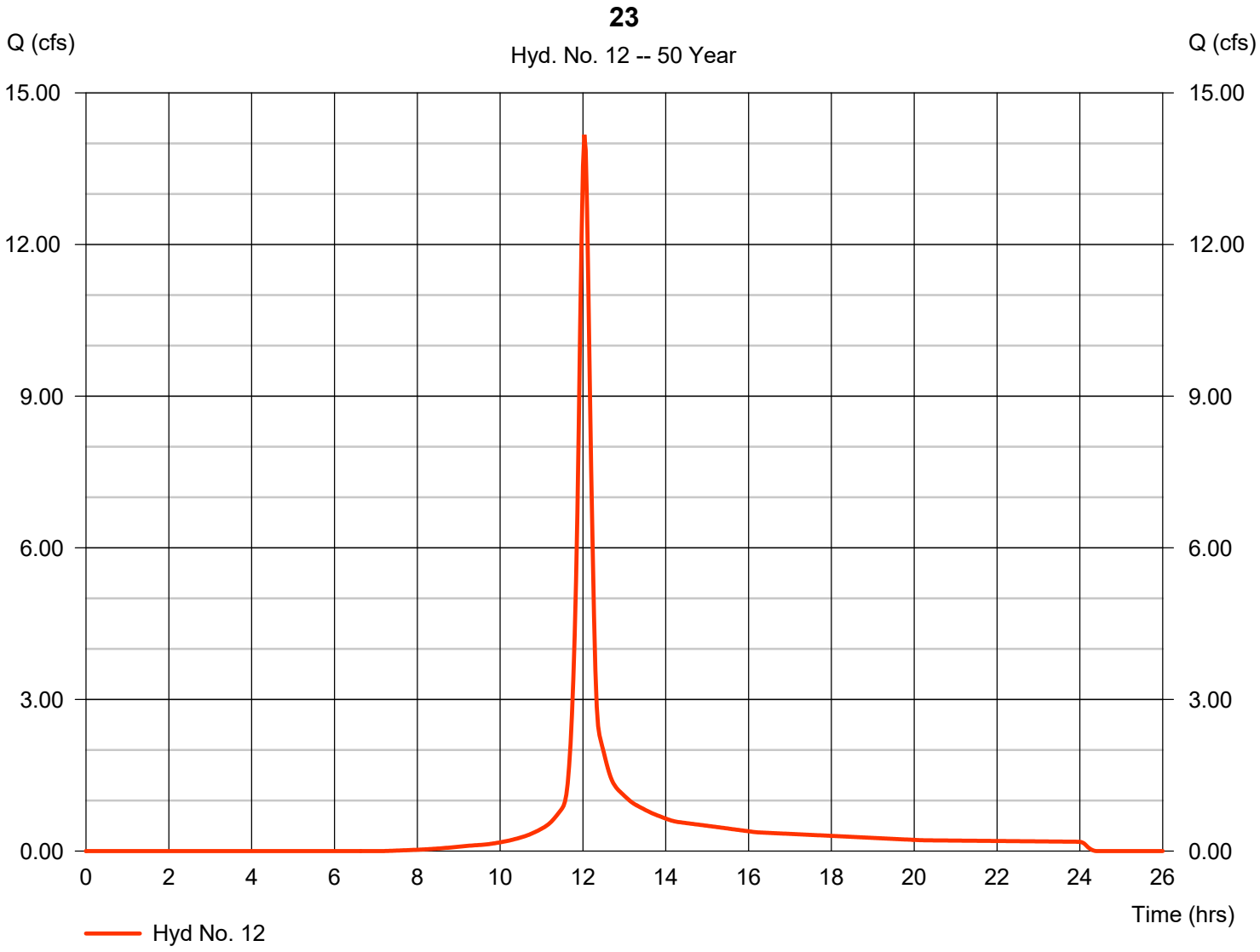


Hydrograph Report

Hyd. No. 12

23

Hydrograph type	=	SCS Runoff	Peak discharge	=	14.17 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	39,771 cuft
Drainage area	=	2.770 ac	Curve number	=	74.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

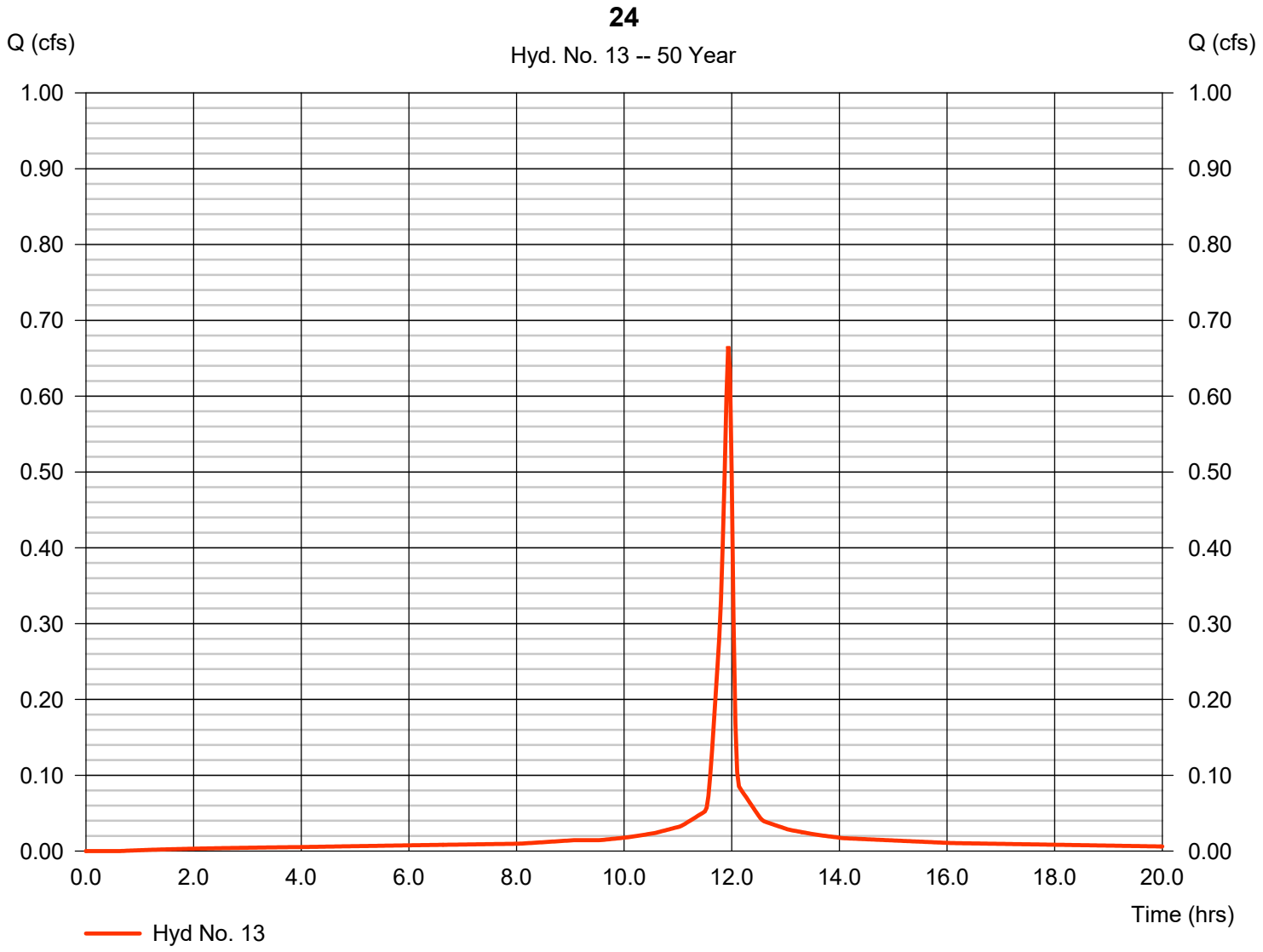


Hydrograph Report

Hyd. No. 13

24

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.666 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,606 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

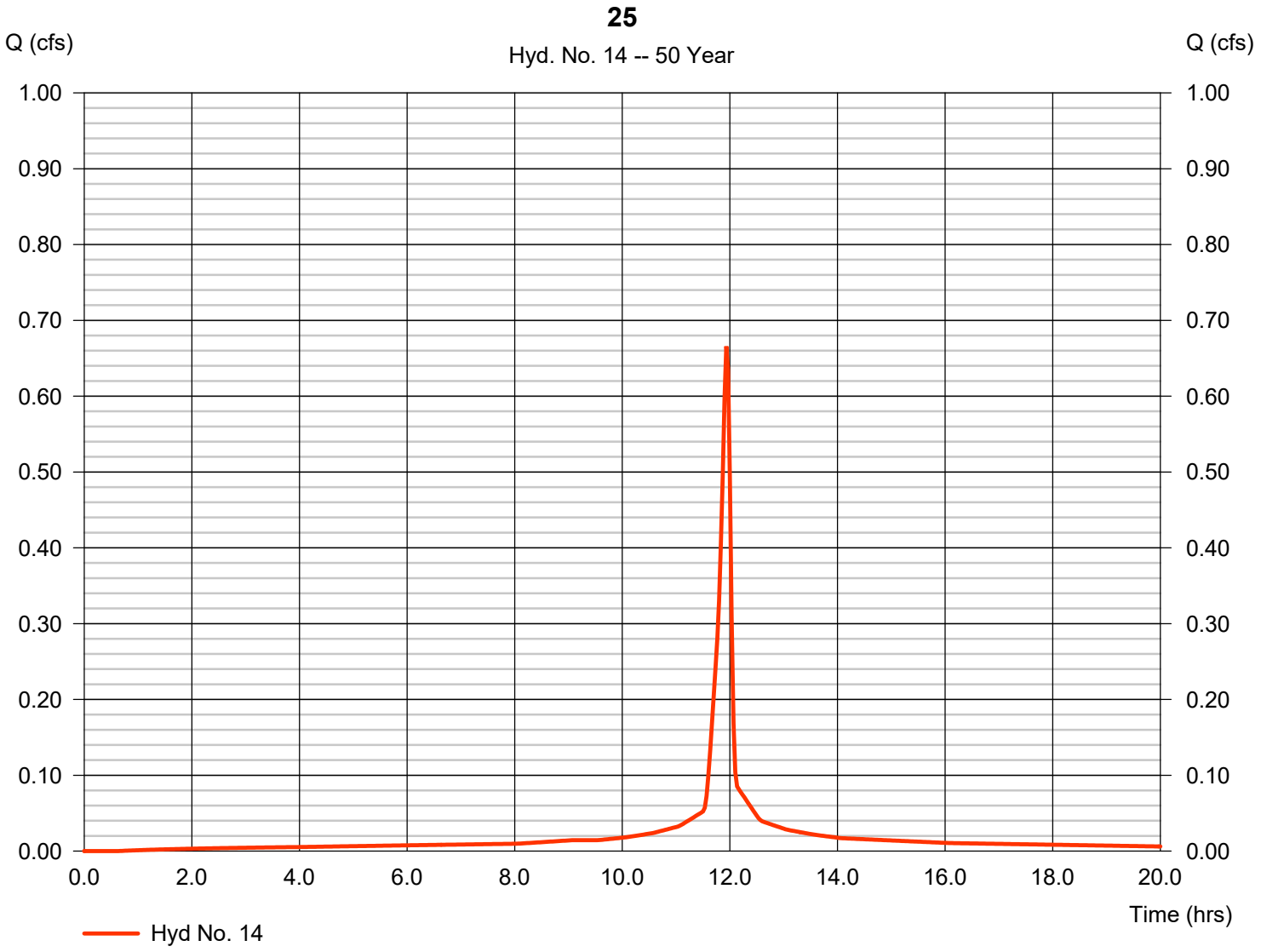


Hydrograph Report

Hyd. No. 14

25

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.666 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,606 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

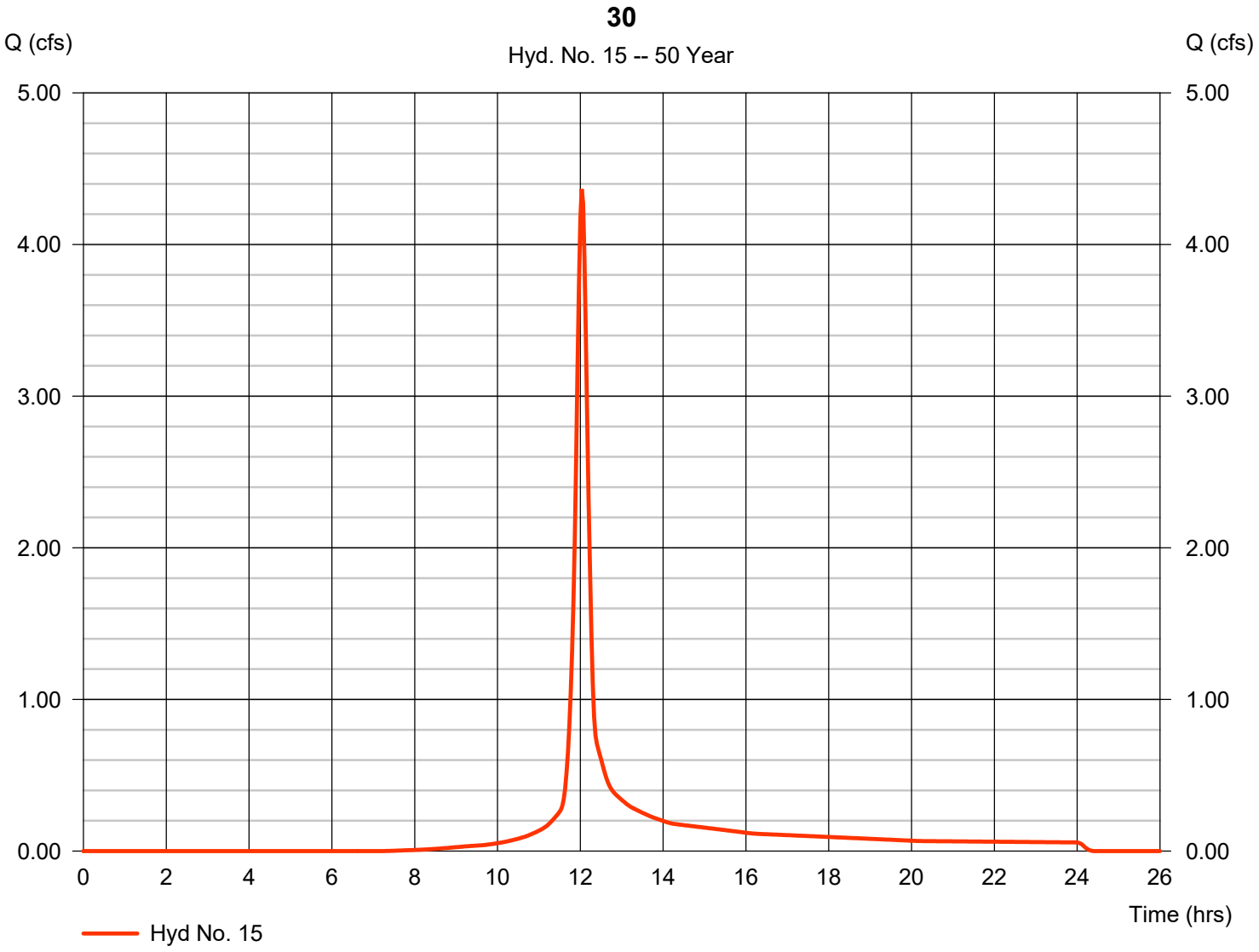


Hydrograph Report

Hyd. No. 15

30

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.366 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	12,250 cuft
Drainage area	=	0.860 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

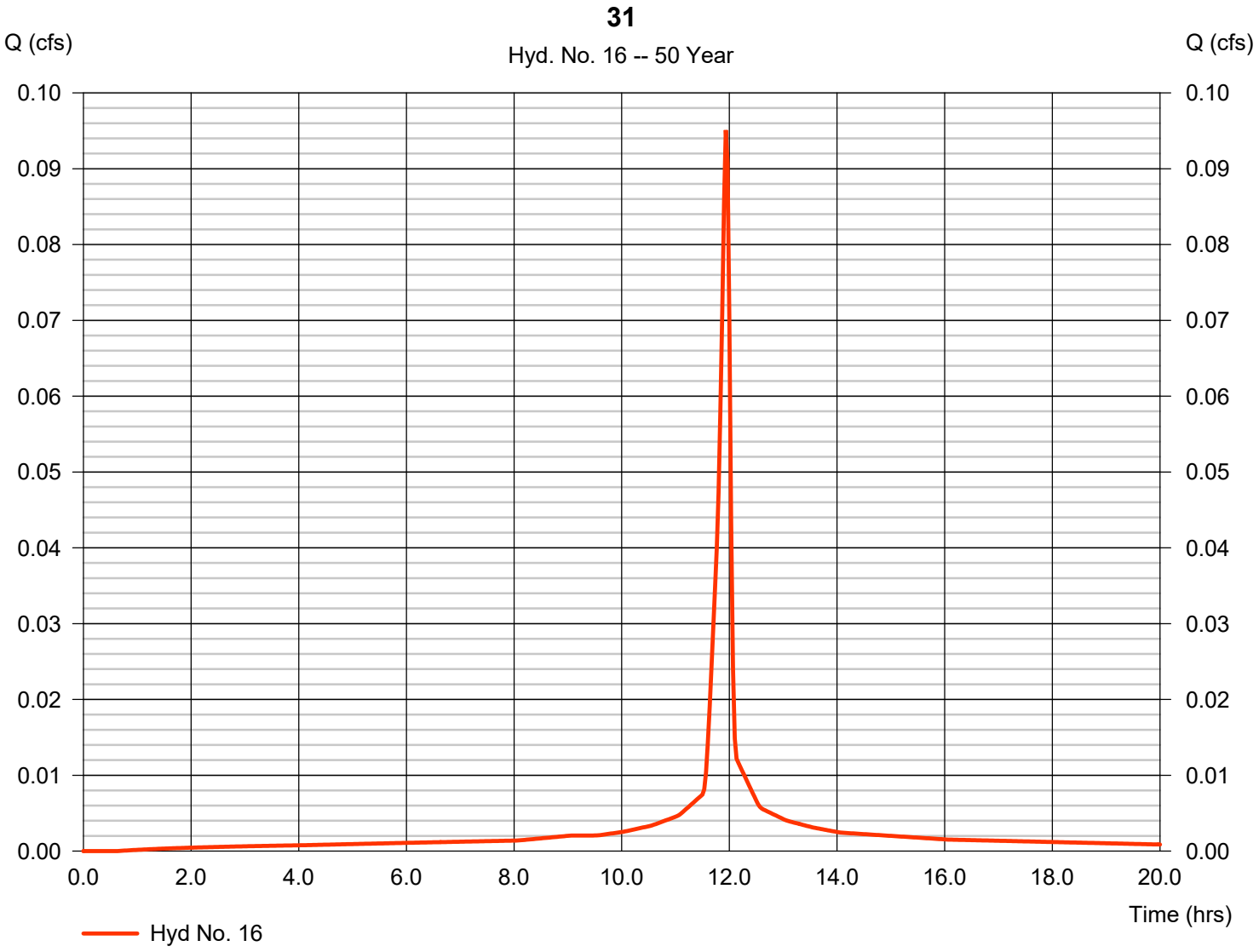


Hydrograph Report

Hyd. No. 16

31

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.095 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	229 cuft
Drainage area	=	0.010 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

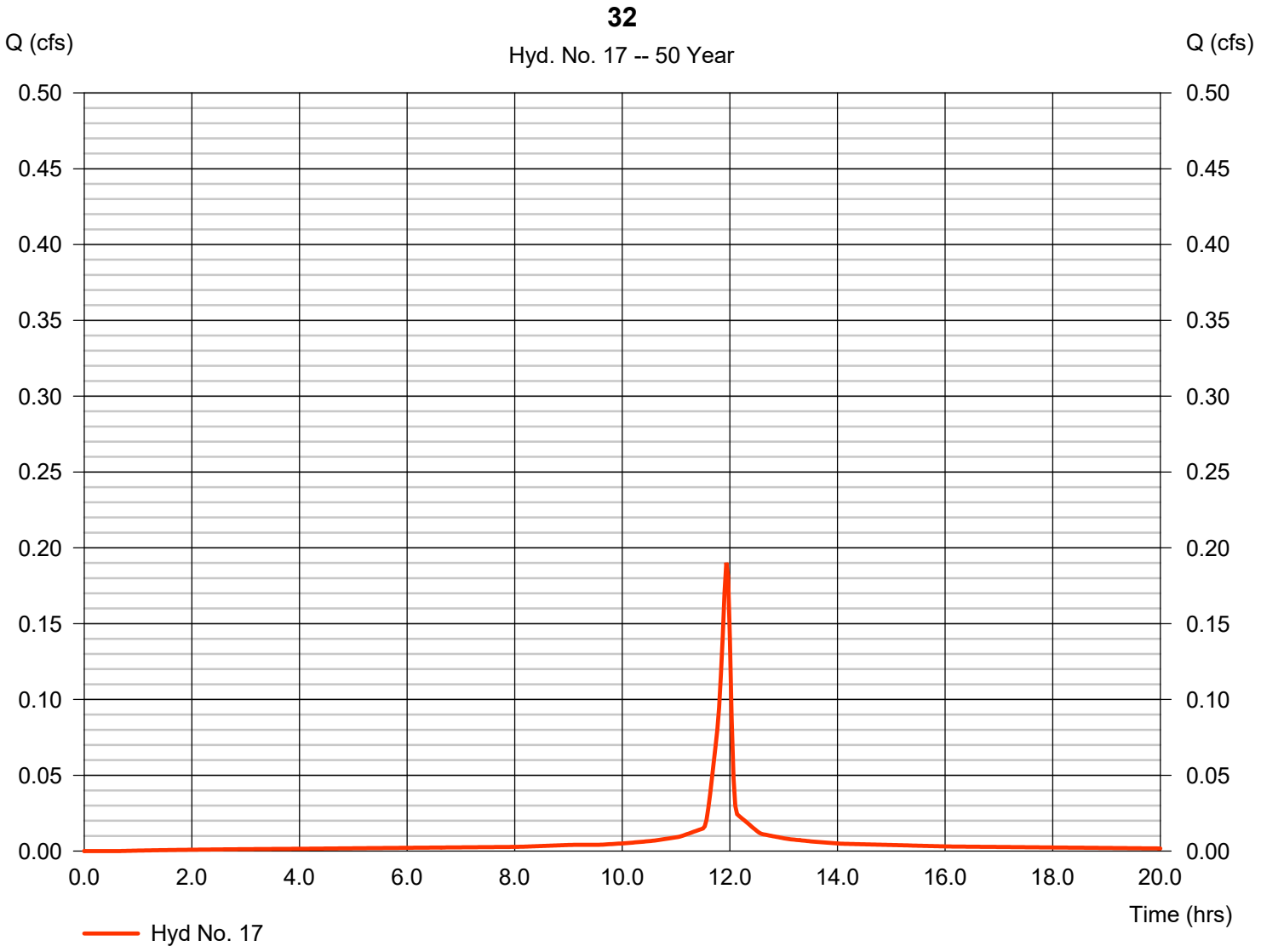


Hydrograph Report

Hyd. No. 17

32

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.190 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	459 cuft
Drainage area	=	0.020 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

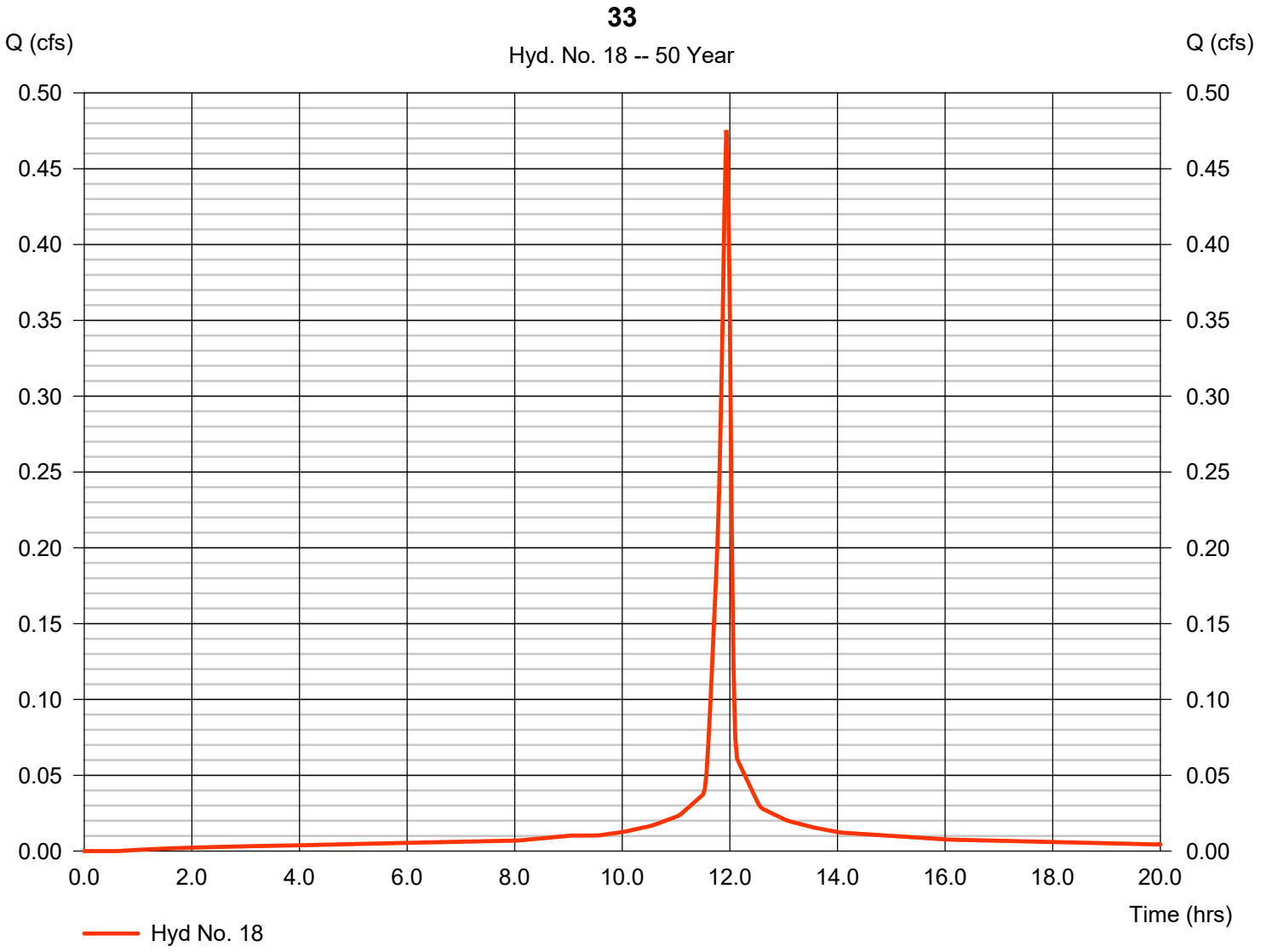


Hydrograph Report

Hyd. No. 18

33

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.476 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,147 cuft
Drainage area	=	0.050 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

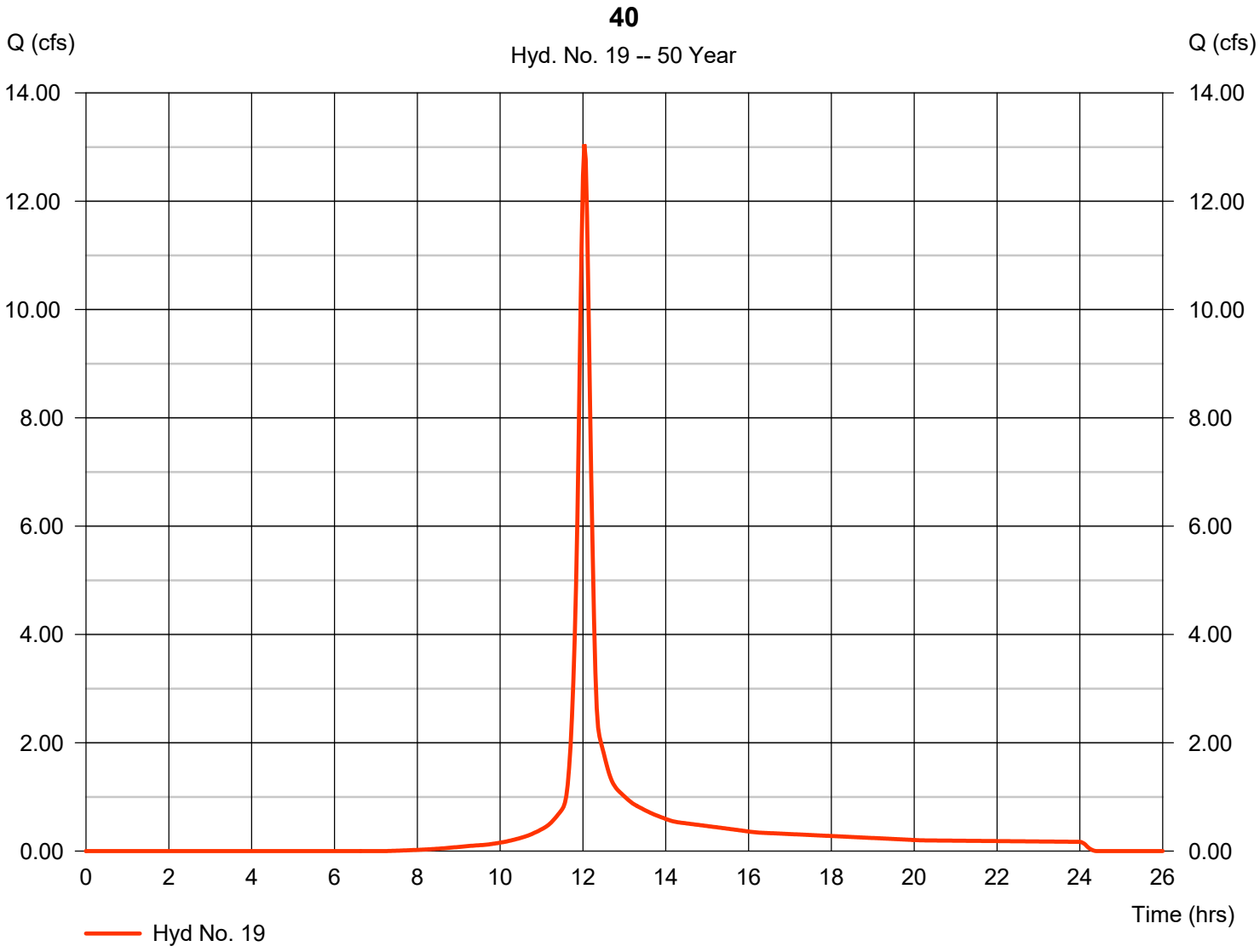


Hydrograph Report

Hyd. No. 19

40

Hydrograph type	=	SCS Runoff	Peak discharge	=	13.05 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	36,608 cuft
Drainage area	=	2.570 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

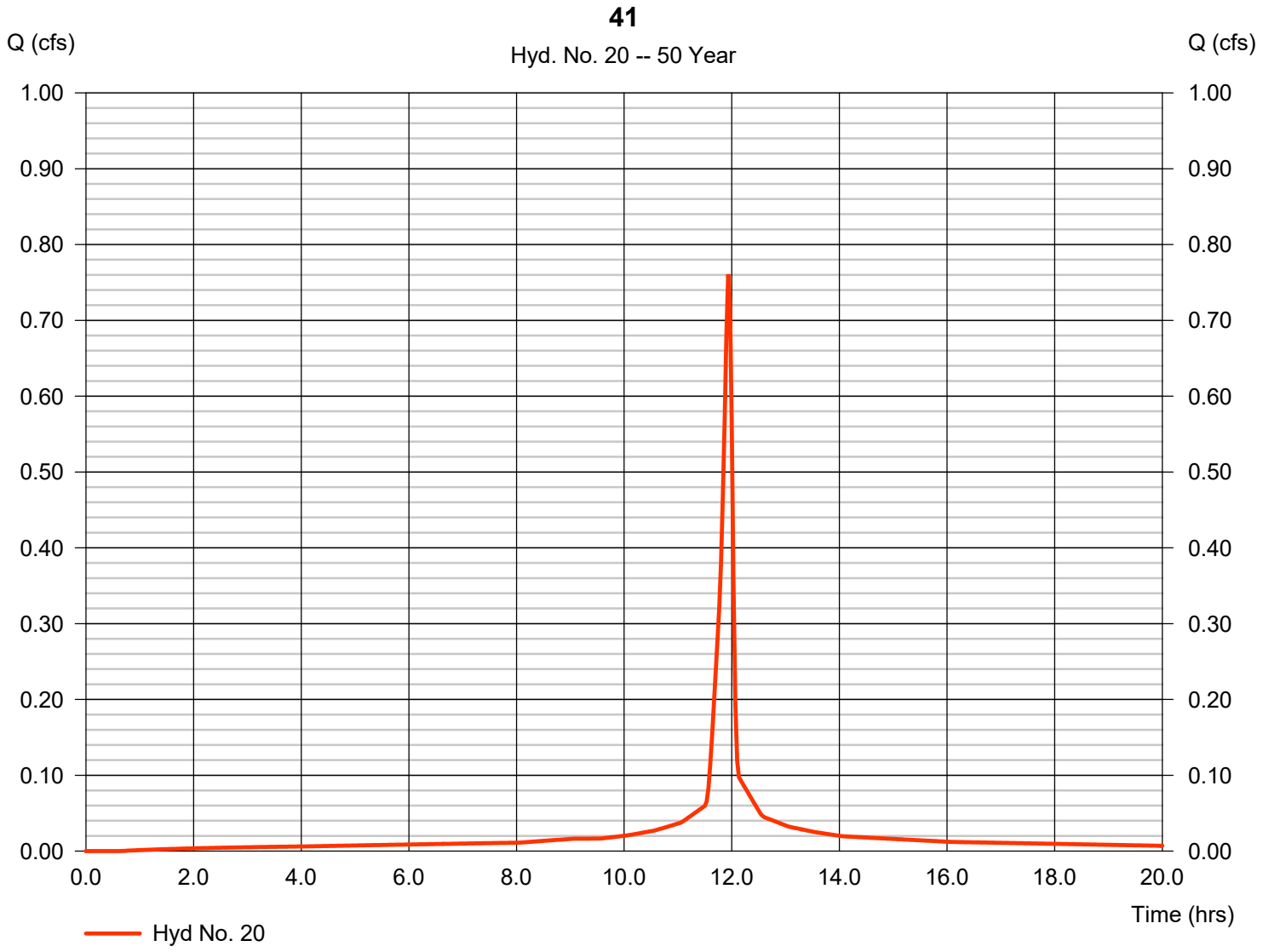


Hydrograph Report

Hyd. No. 20

41

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.761 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,835 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

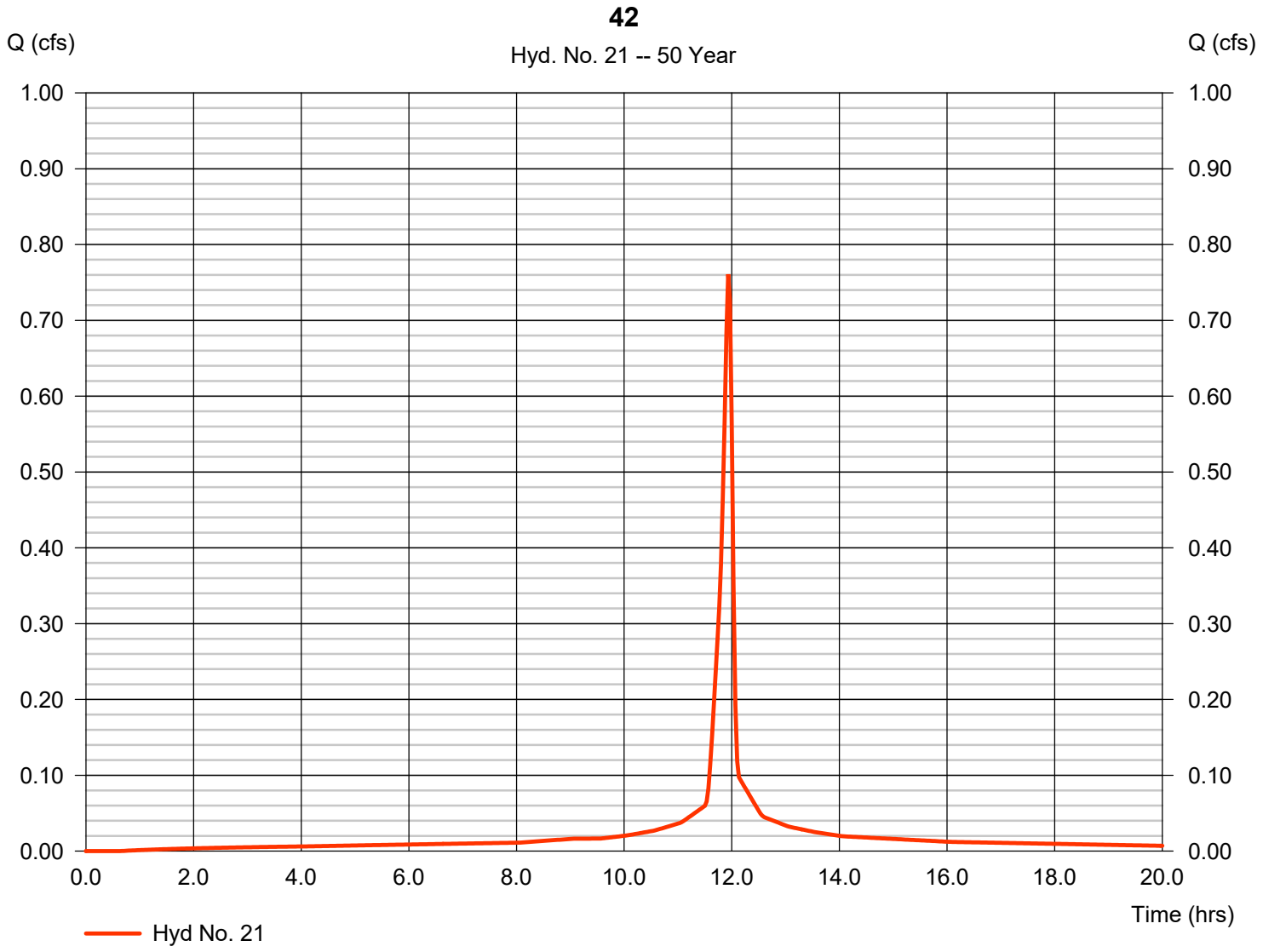


Hydrograph Report

Hyd. No. 21

42

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.761 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,835 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

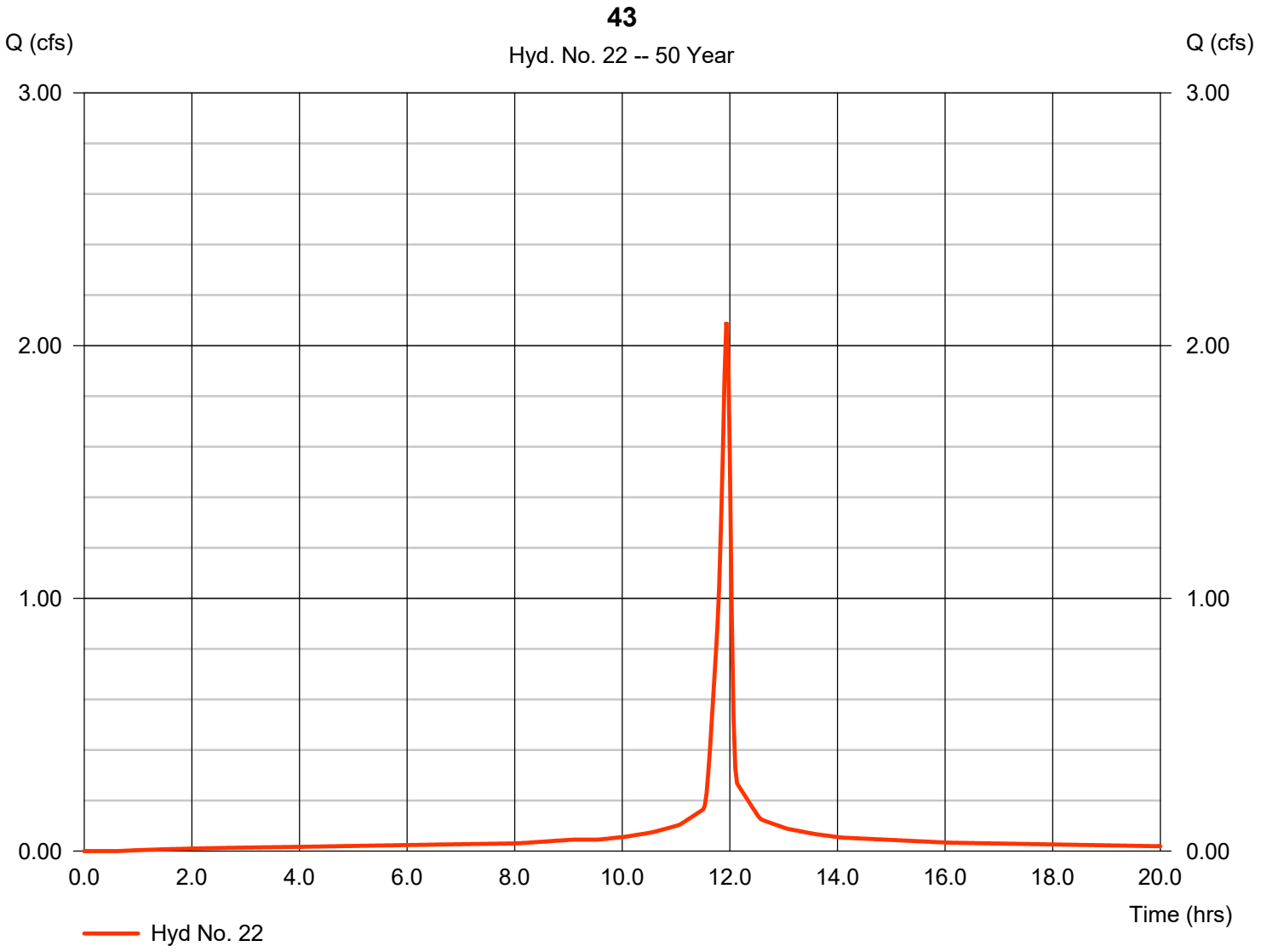


Hydrograph Report

Hyd. No. 22

43

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.092 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	5,047 cuft
Drainage area	=	0.220 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

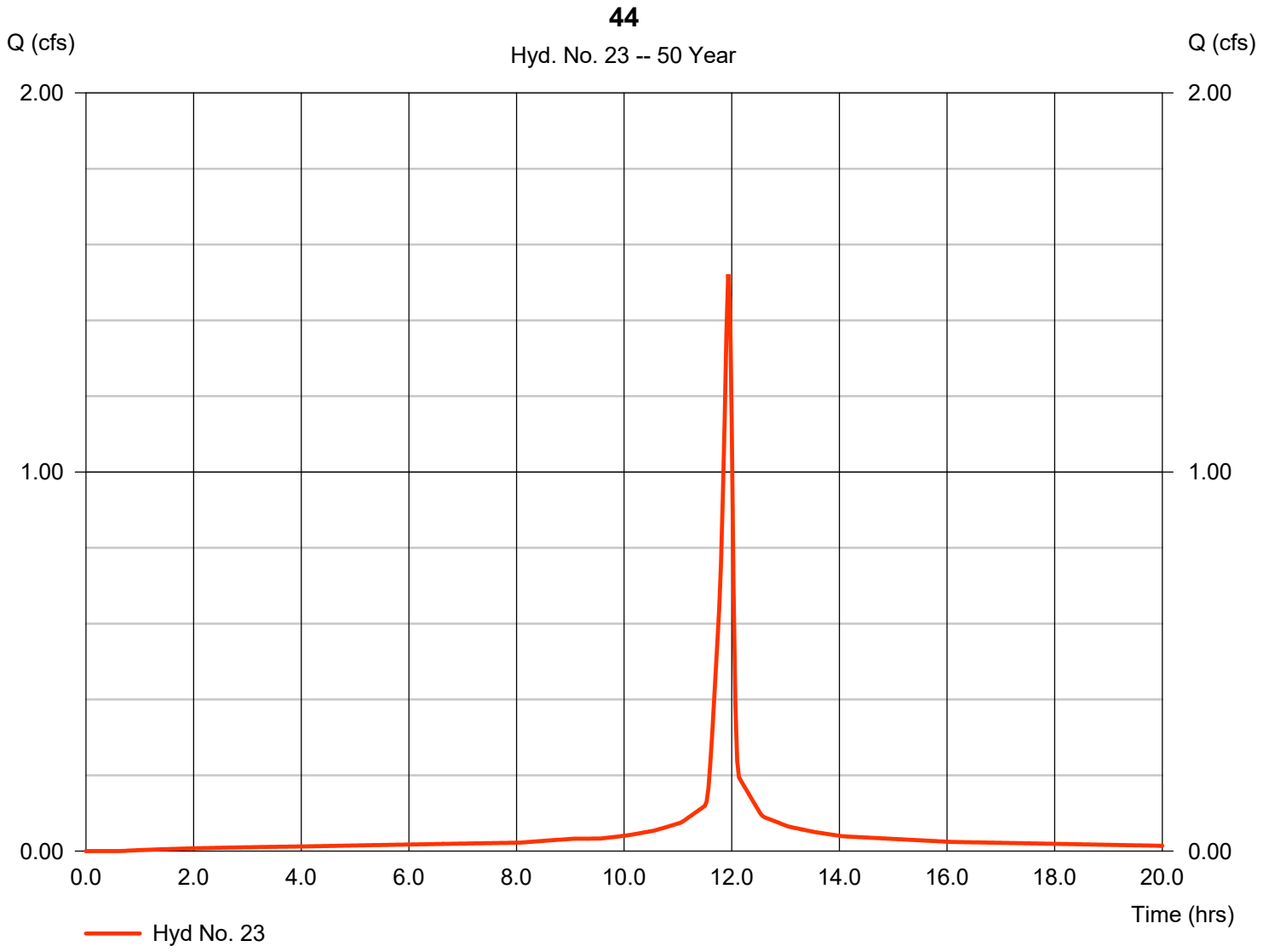


Hydrograph Report

Hyd. No. 23

44

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.522 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,670 cuft
Drainage area	=	0.160 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

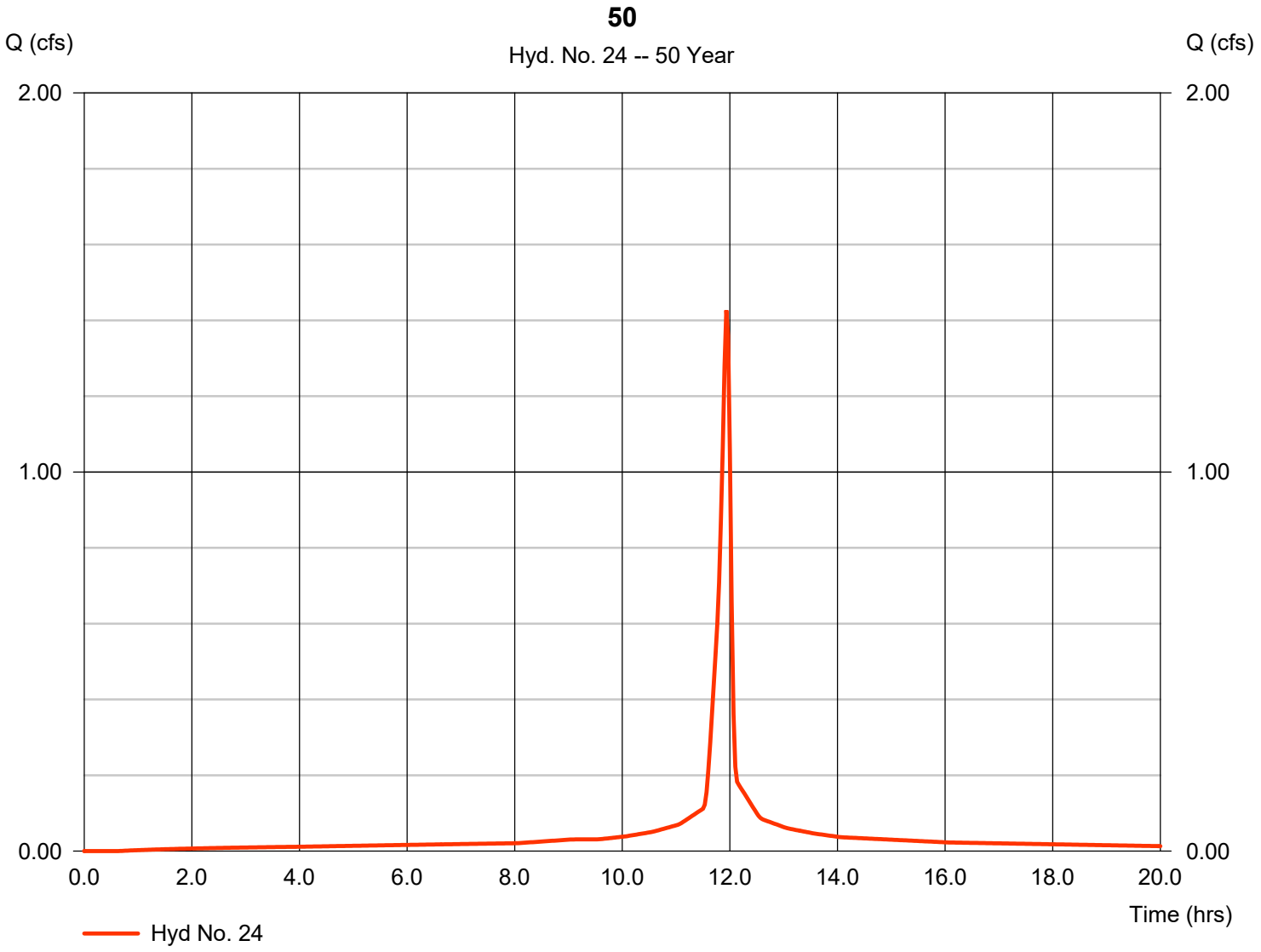


Hydrograph Report

Hyd. No. 24

50

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.427 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,441 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

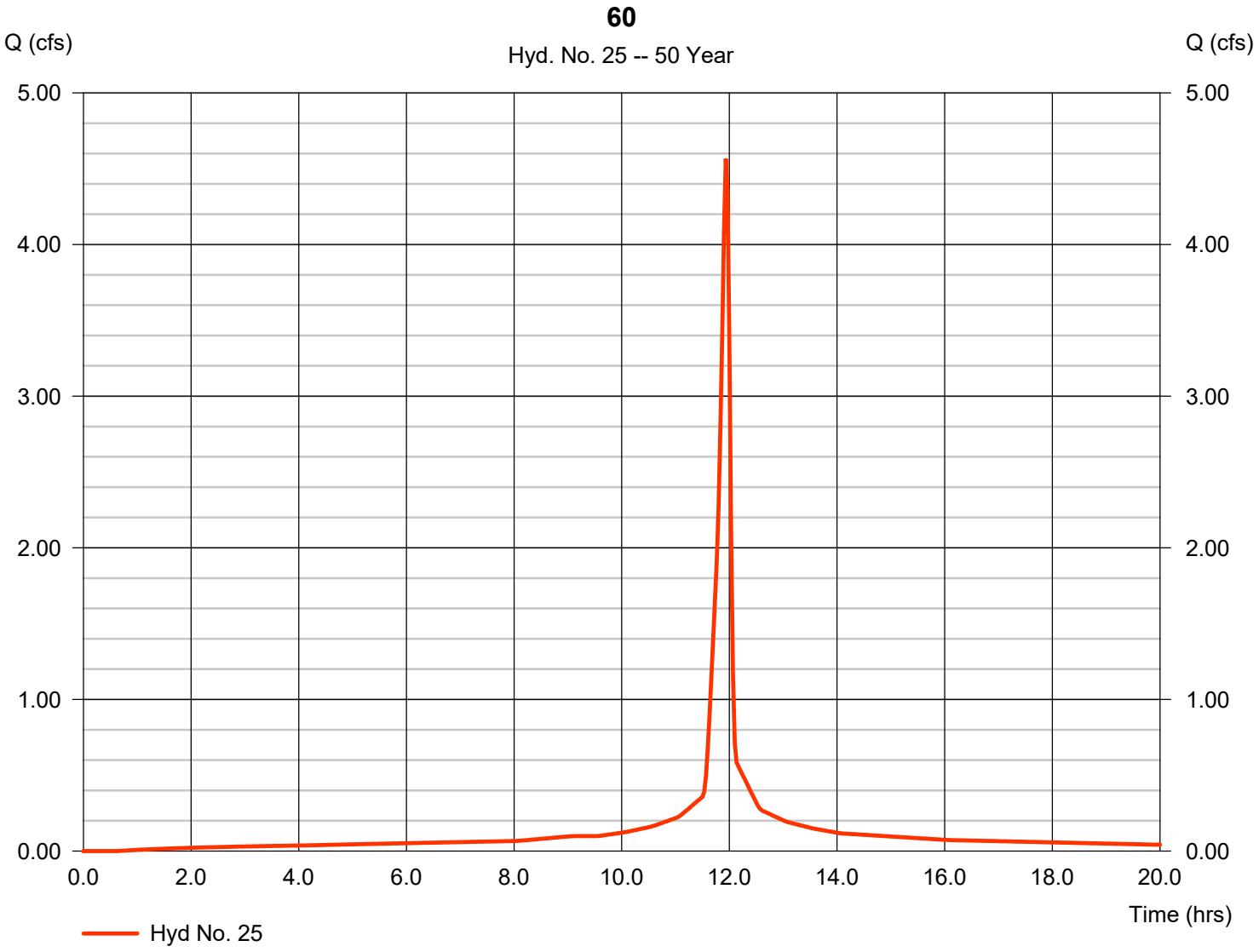


Hydrograph Report

Hyd. No. 25

60

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.565 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	11,011 cuft
Drainage area	=	0.480 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

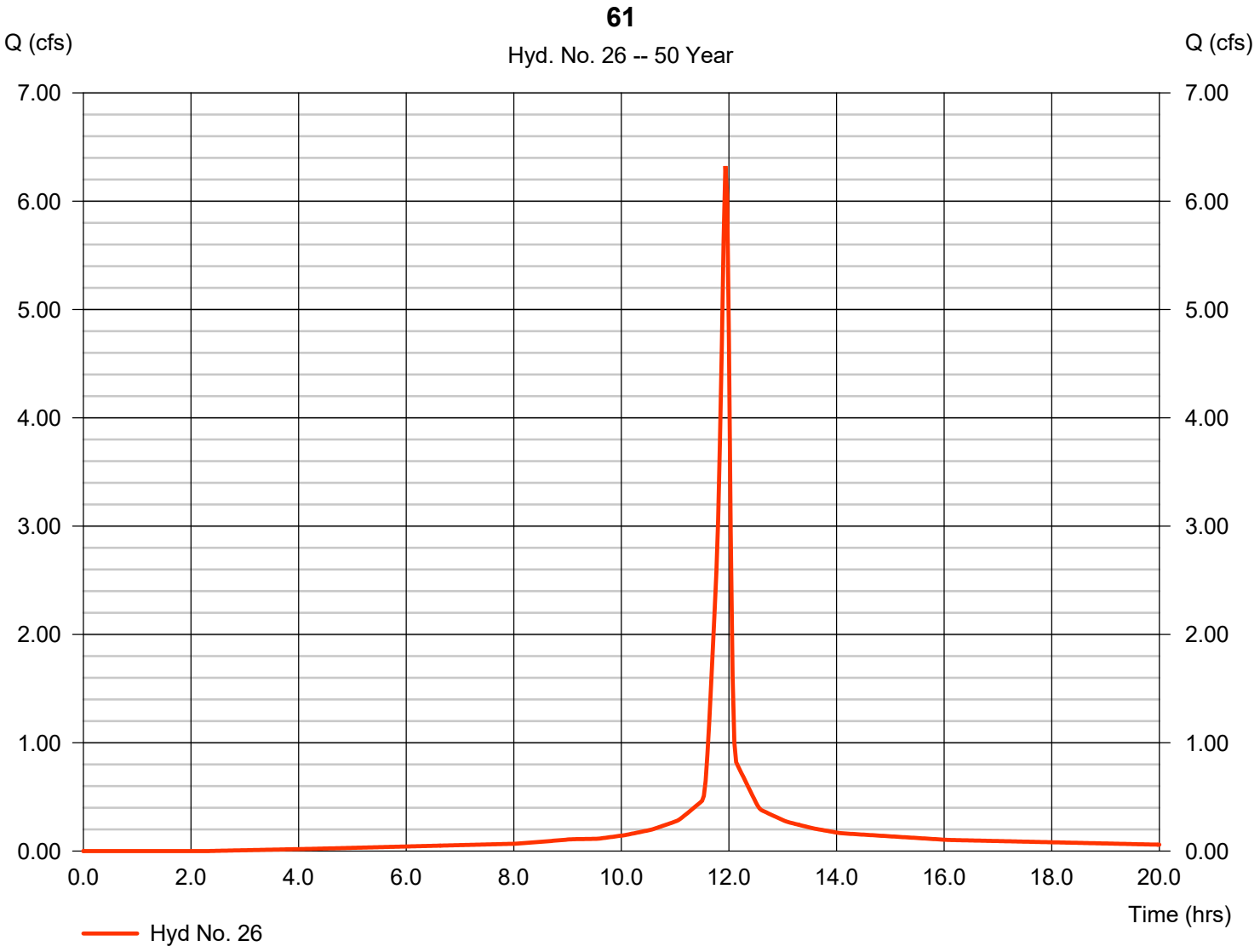


Hydrograph Report

Hyd. No. 26

61

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.324 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	14,199 cuft
Drainage area	=	0.690 ac	Curve number	=	92.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

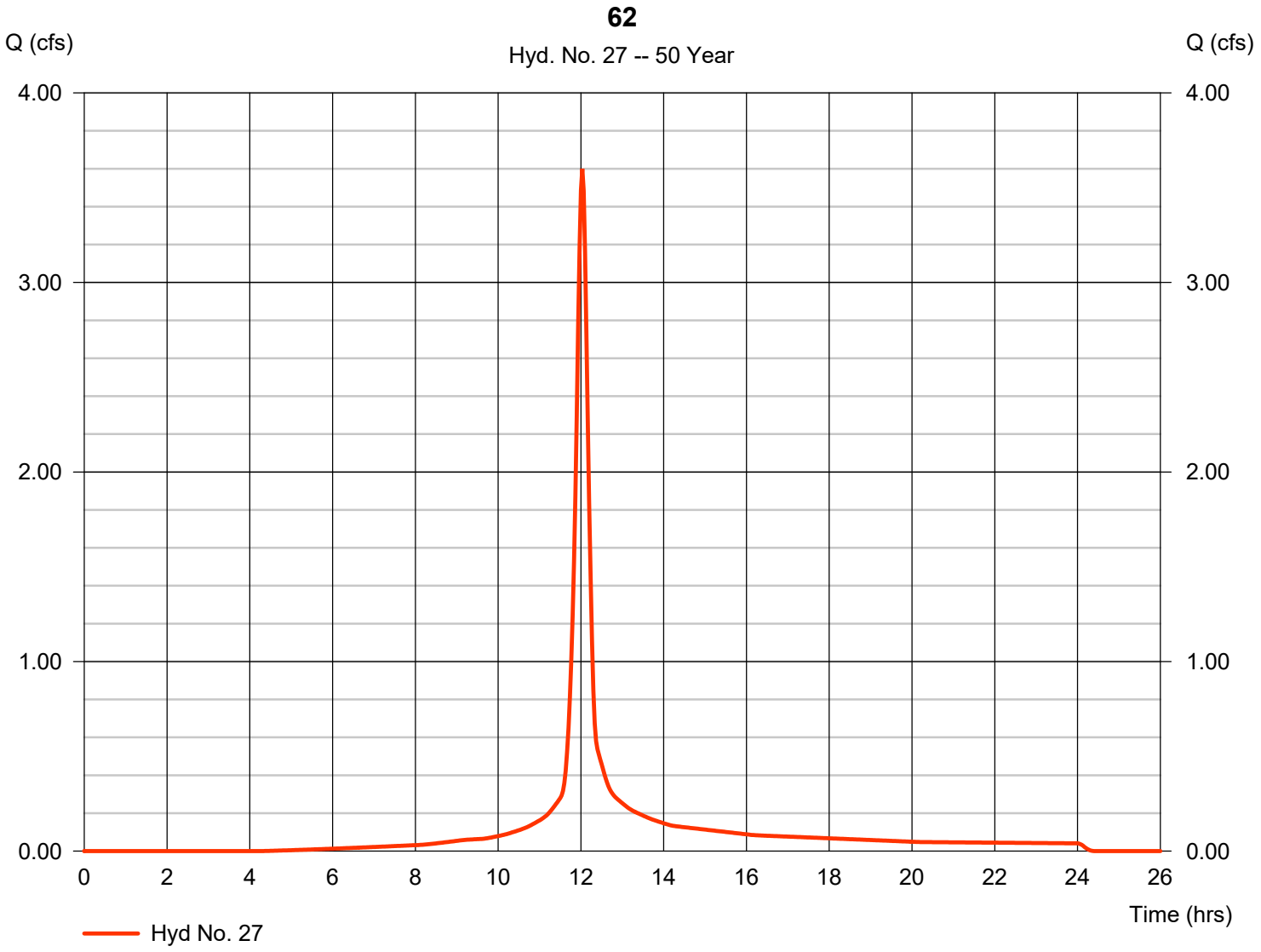


Hydrograph Report

Hyd. No. 27

62

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.600 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	10,417 cuft
Drainage area	=	0.560 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

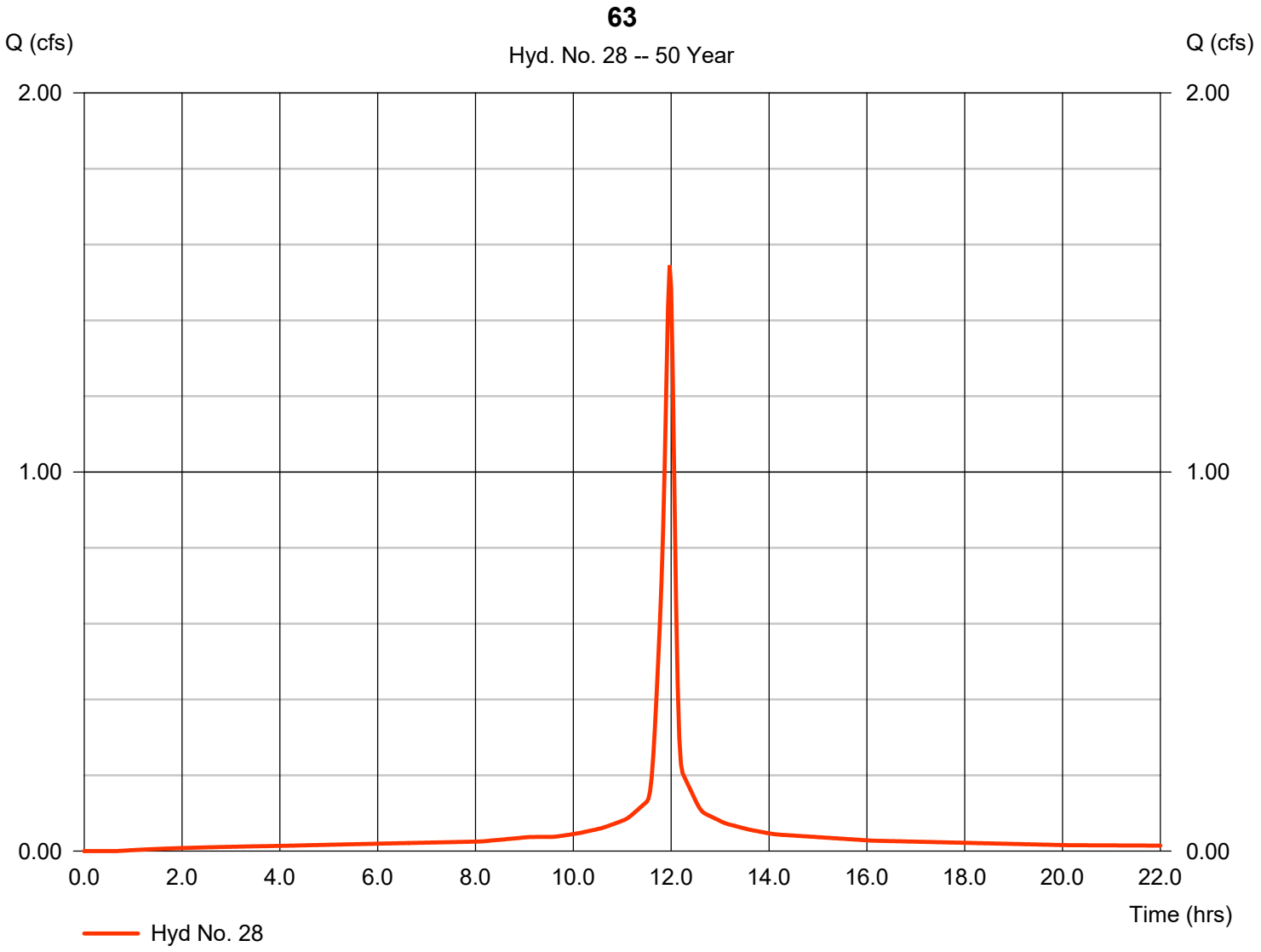


Hydrograph Report

Hyd. No. 28

63

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.545 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	4,160 cuft
Drainage area	=	0.170 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

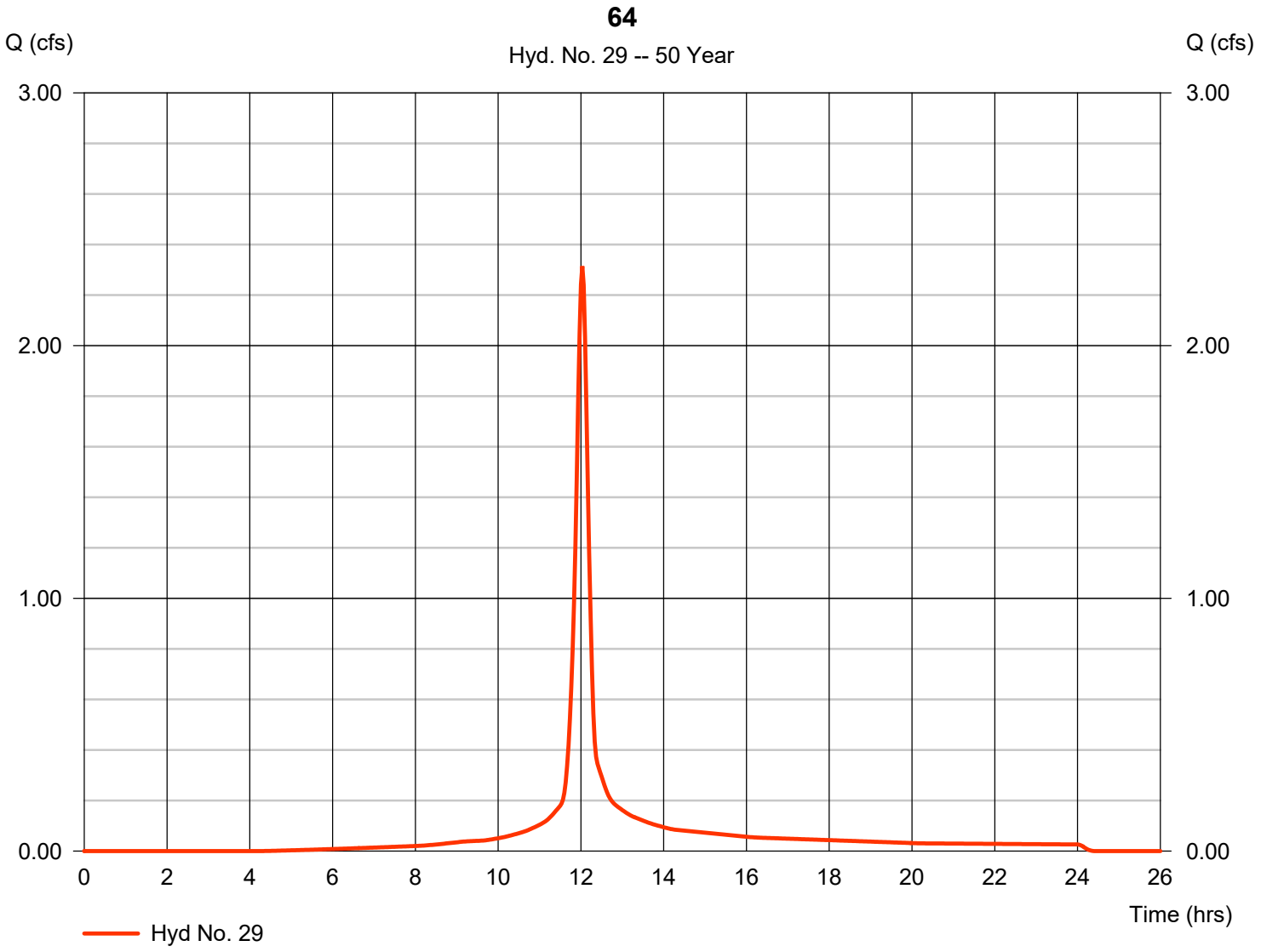


Hydrograph Report

Hyd. No. 29

64

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.314 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	6,697 cuft
Drainage area	=	0.360 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

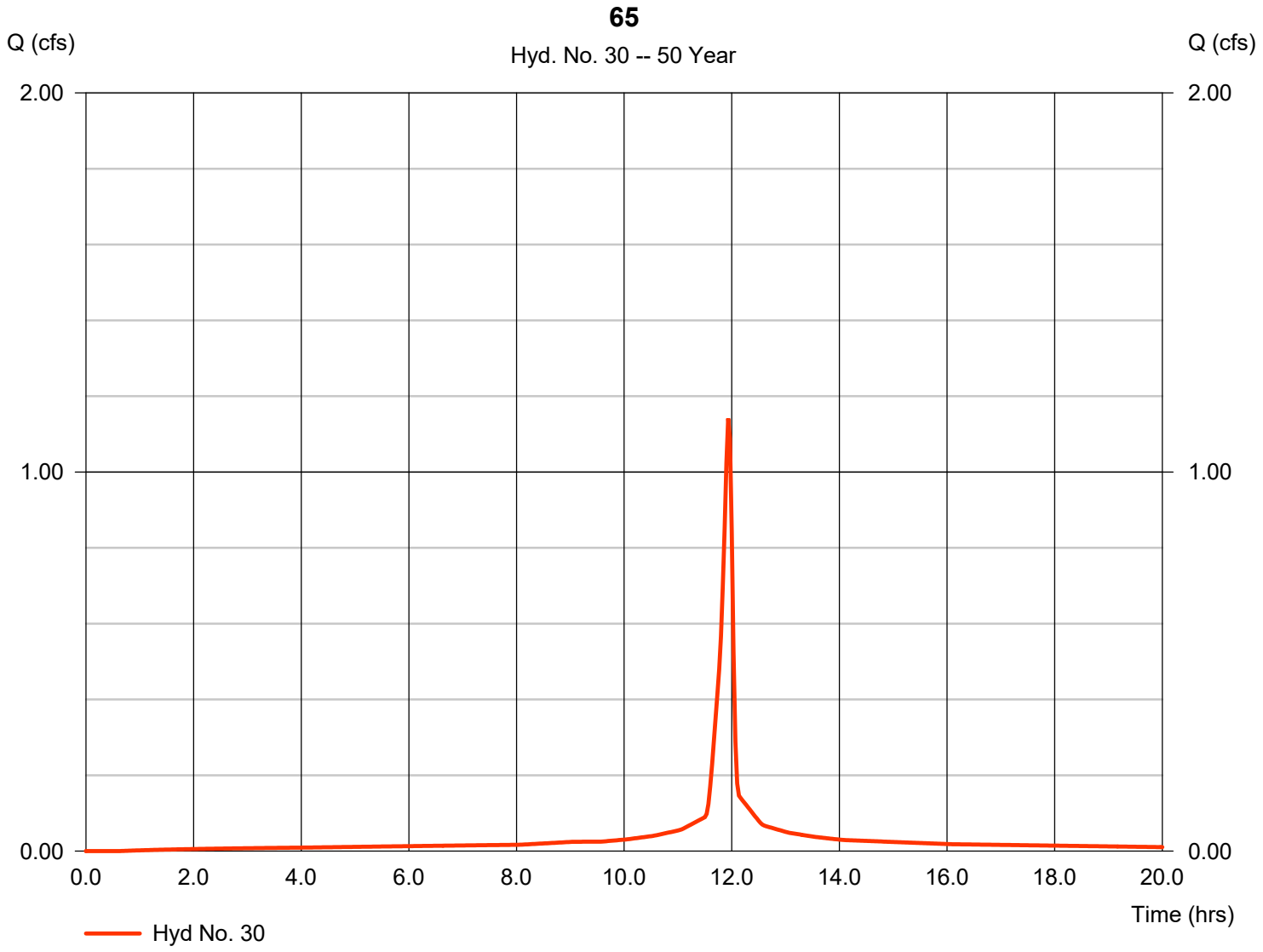


Hydrograph Report

Hyd. No. 30

65

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.141 cfs
Storm frequency	=	50 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,753 cuft
Drainage area	=	0.120 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.98 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

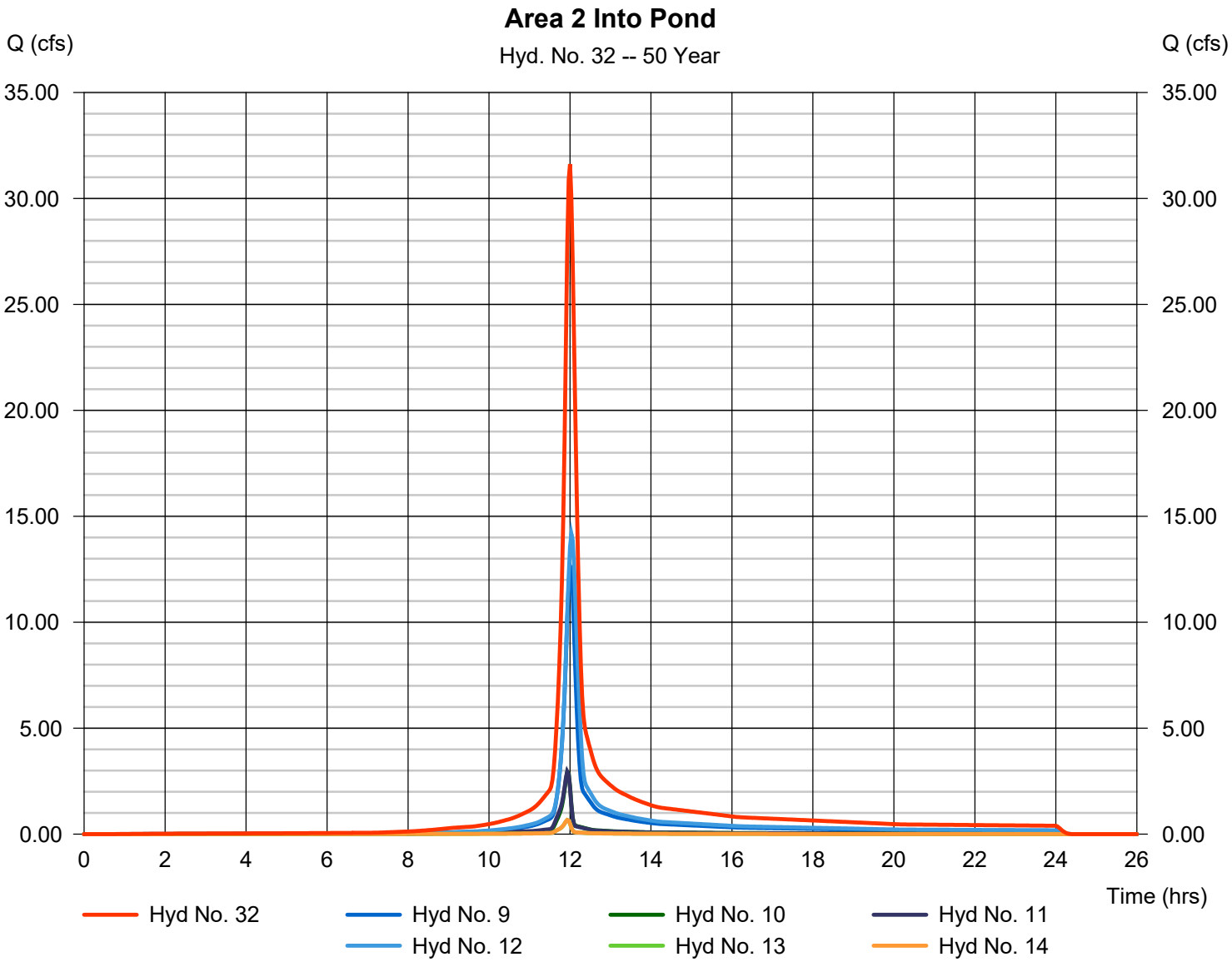


Hydrograph Report

Hyd. No. 32

Area 2 Into Pond

Hydrograph type	= Combine	Peak discharge	= 31.62 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 89,091 cuft
Inflow hyds.	= 9, 10, 11, 12, 13, 14	Contrib. drain. area	= 5.770 ac

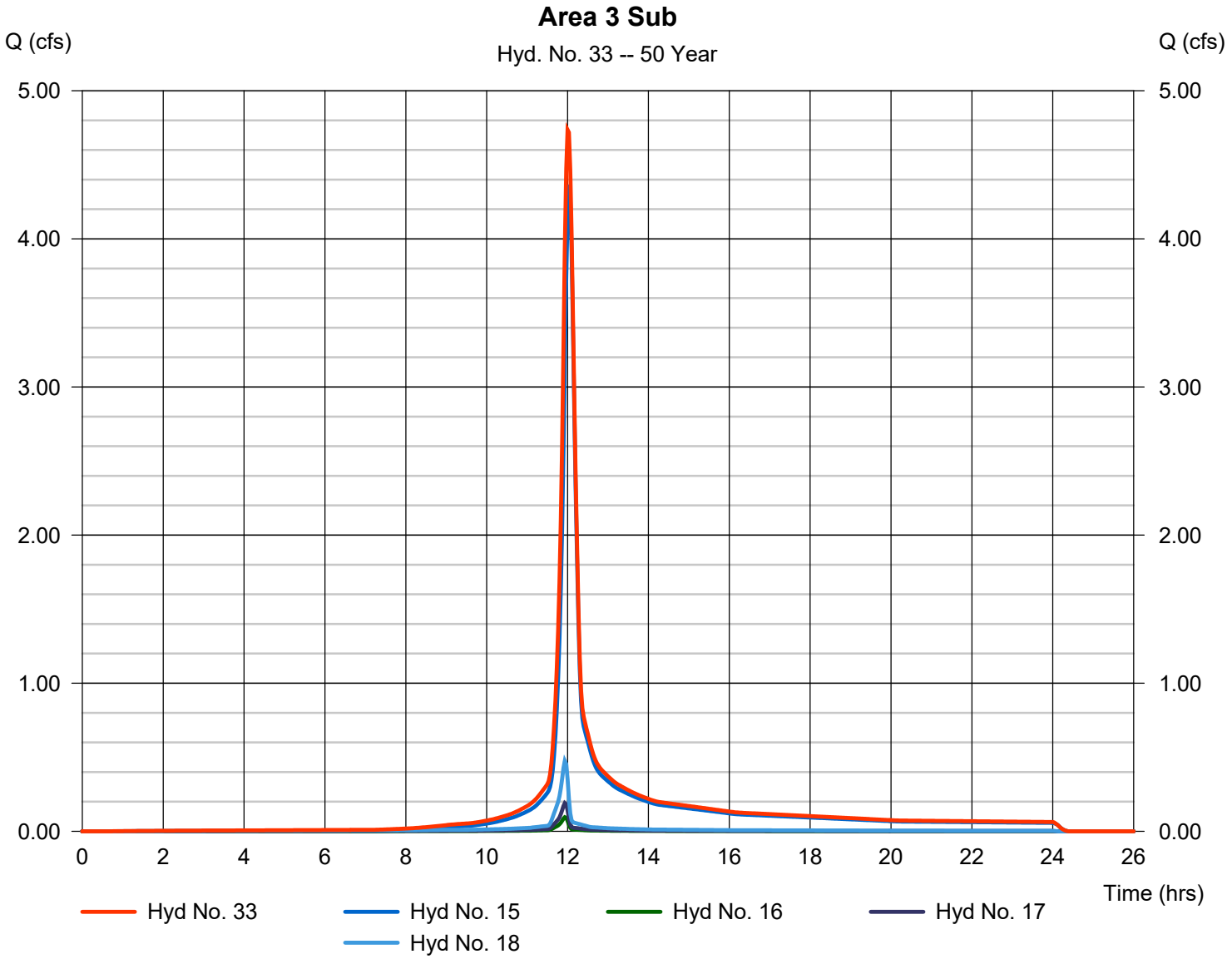


Hydrograph Report

Hyd. No. 33

Area 3 Sub

Hydrograph type	=	Combine	Peak discharge	=	4.736 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	14,085 cuft
Inflow hyds.	=	15, 16, 17, 18	Contrib. drain. area	=	0.940 ac

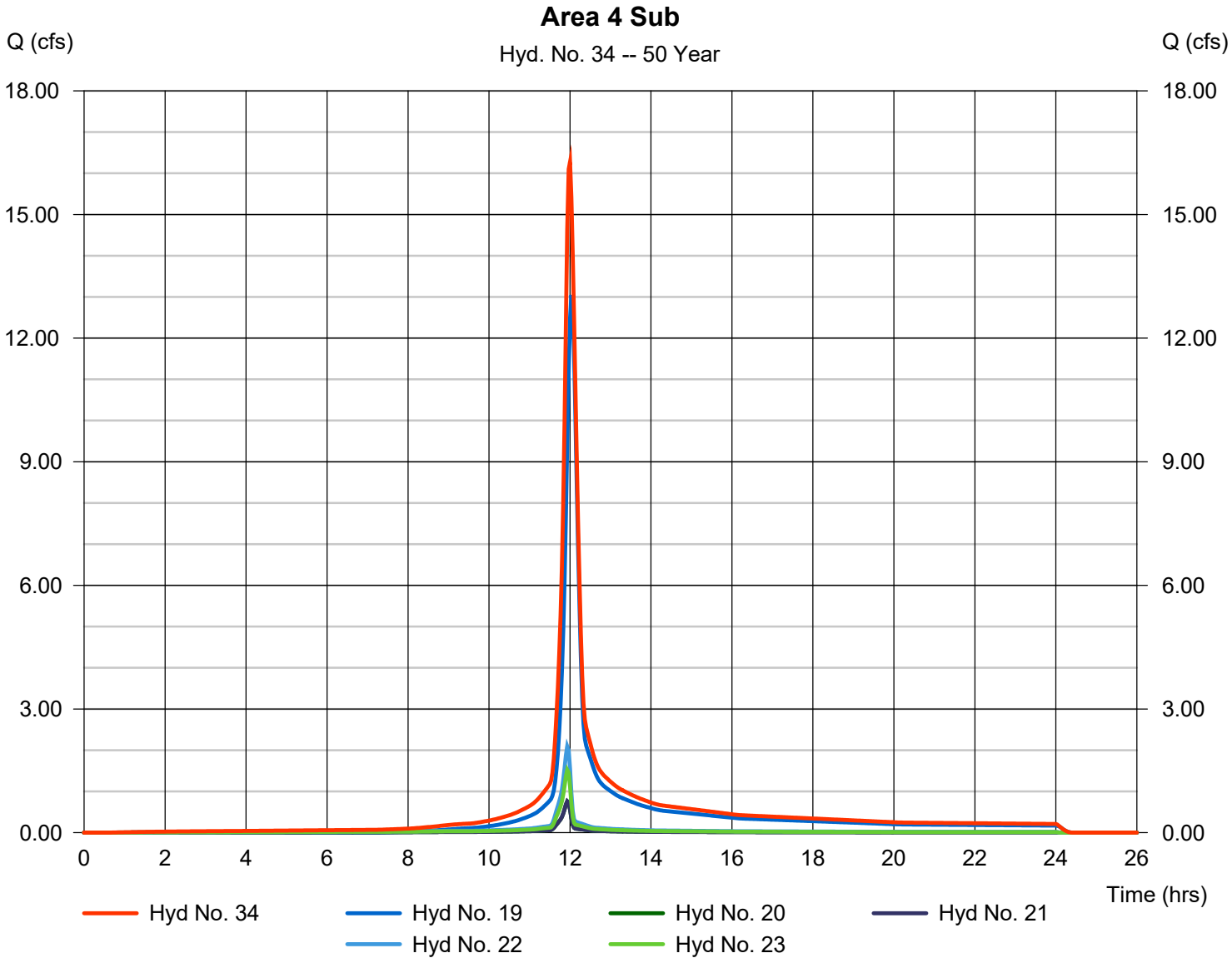


Hydrograph Report

Hyd. No. 34

Area 4 Sub

Hydrograph type	= Combine	Peak discharge	= 16.27 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 48,995 cuft
Inflow hyds.	= 19, 20, 21, 22, 23	Contrib. drain. area	= 3.110 ac

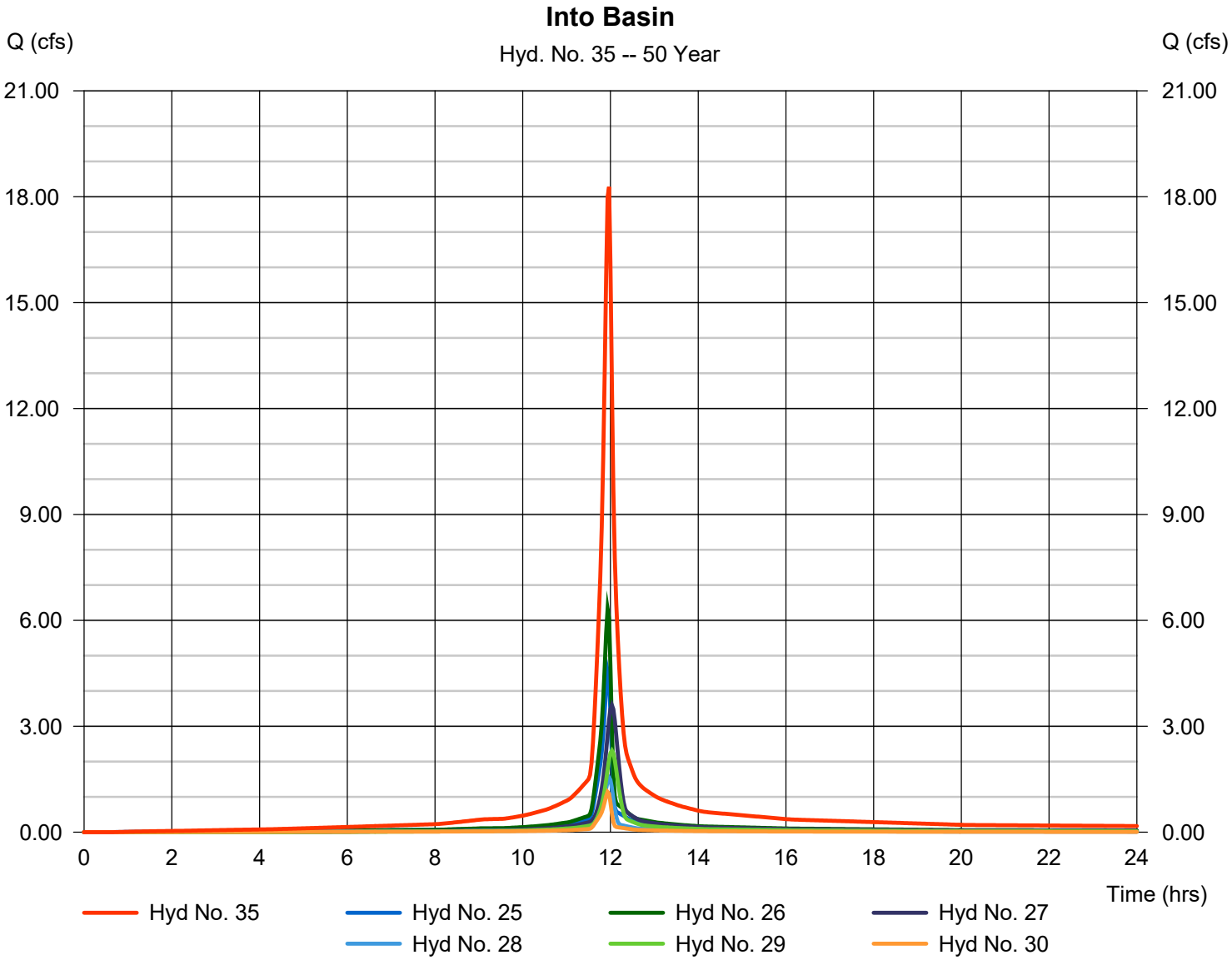


Hydrograph Report

Hyd. No. 35

Into Basin

Hydrograph type	= Combine	Peak discharge	= 18.28 cfs
Storm frequency	= 50 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 49,237 cuft
Inflow hyds.	= 25, 26, 27, 28, 29, 30	Contrib. drain. area	= 2.380 ac



Hydrograph Report

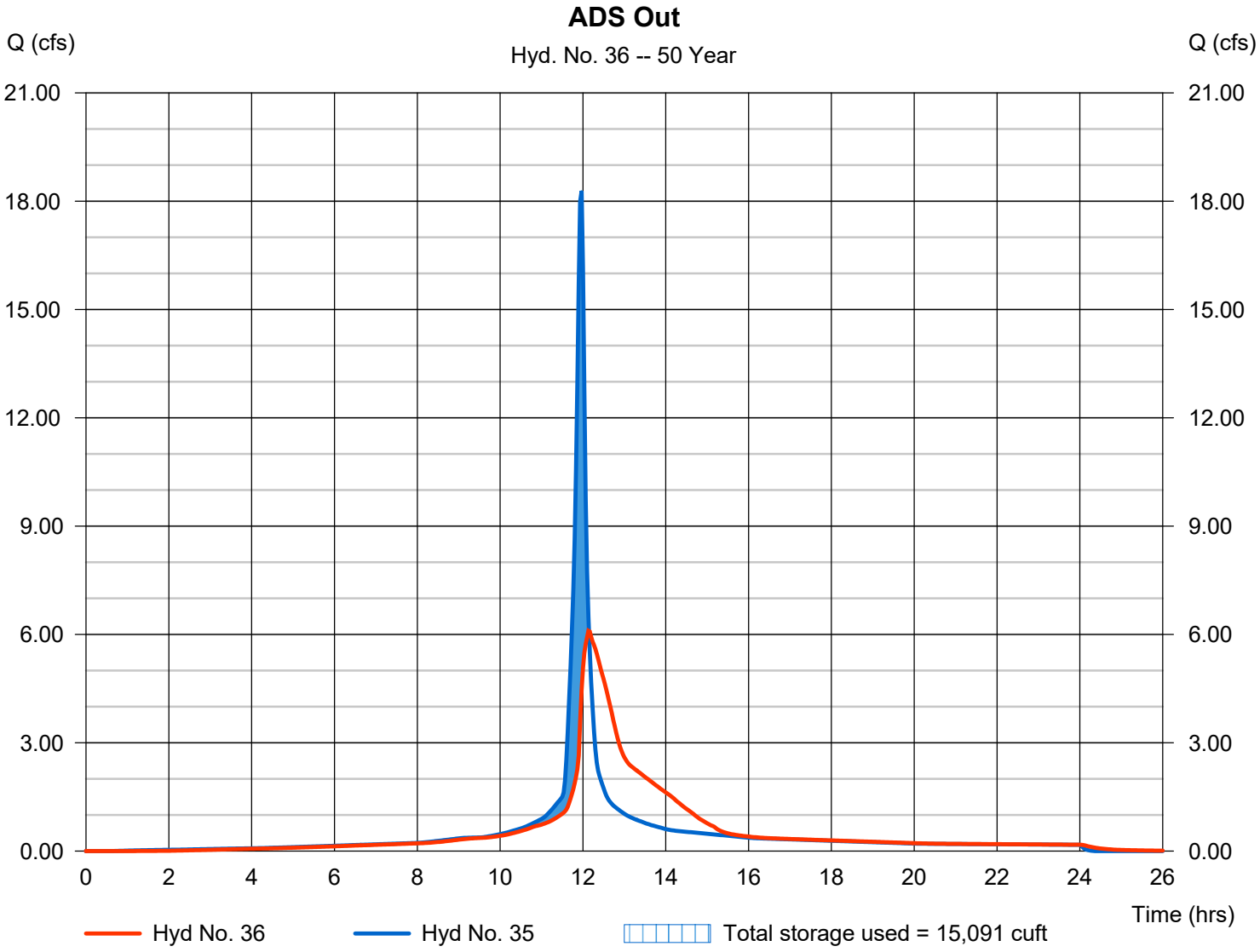
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 03 / 2 / 2023

Hyd. No. 36

ADS Out

Hydrograph type	=	Reservoir	Peak discharge	=	6.101 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.13 hrs
Time interval	=	2 min	Hyd. volume	=	49,227 cuft
Inflow hyd. No.	=	35 - Into Basin	Max. Elevation	=	1256.85 ft
Reservoir name	=	ADS	Max. Storage	=	15,091 cuft

Storage Indication method used.

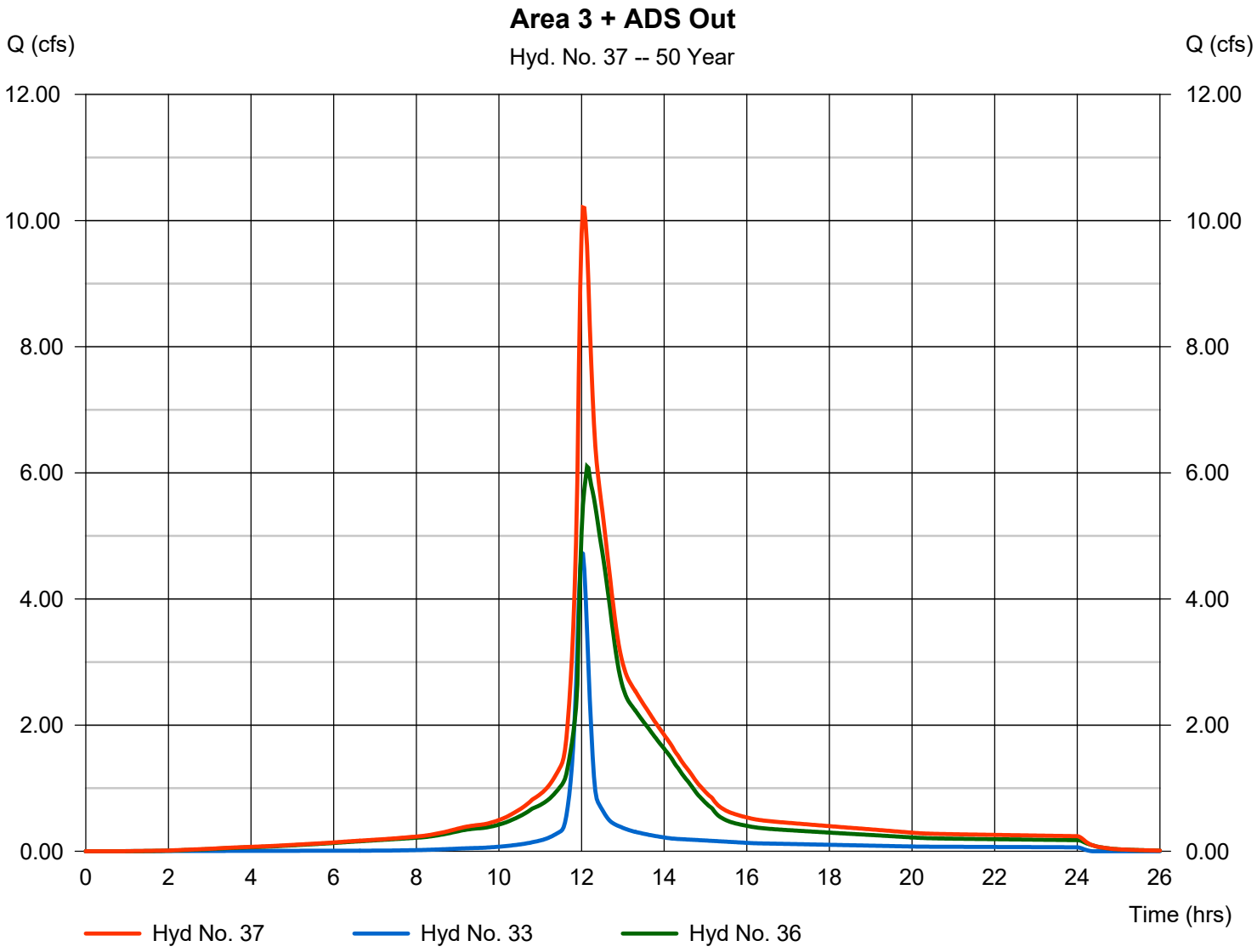


Hydrograph Report

Hyd. No. 37

Area 3 + ADS Out

Hydrograph type	=	Combine	Peak discharge	=	10.21 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	63,312 cuft
Inflow hyds.	=	33, 36	Contrib. drain. area	=	0.000 ac

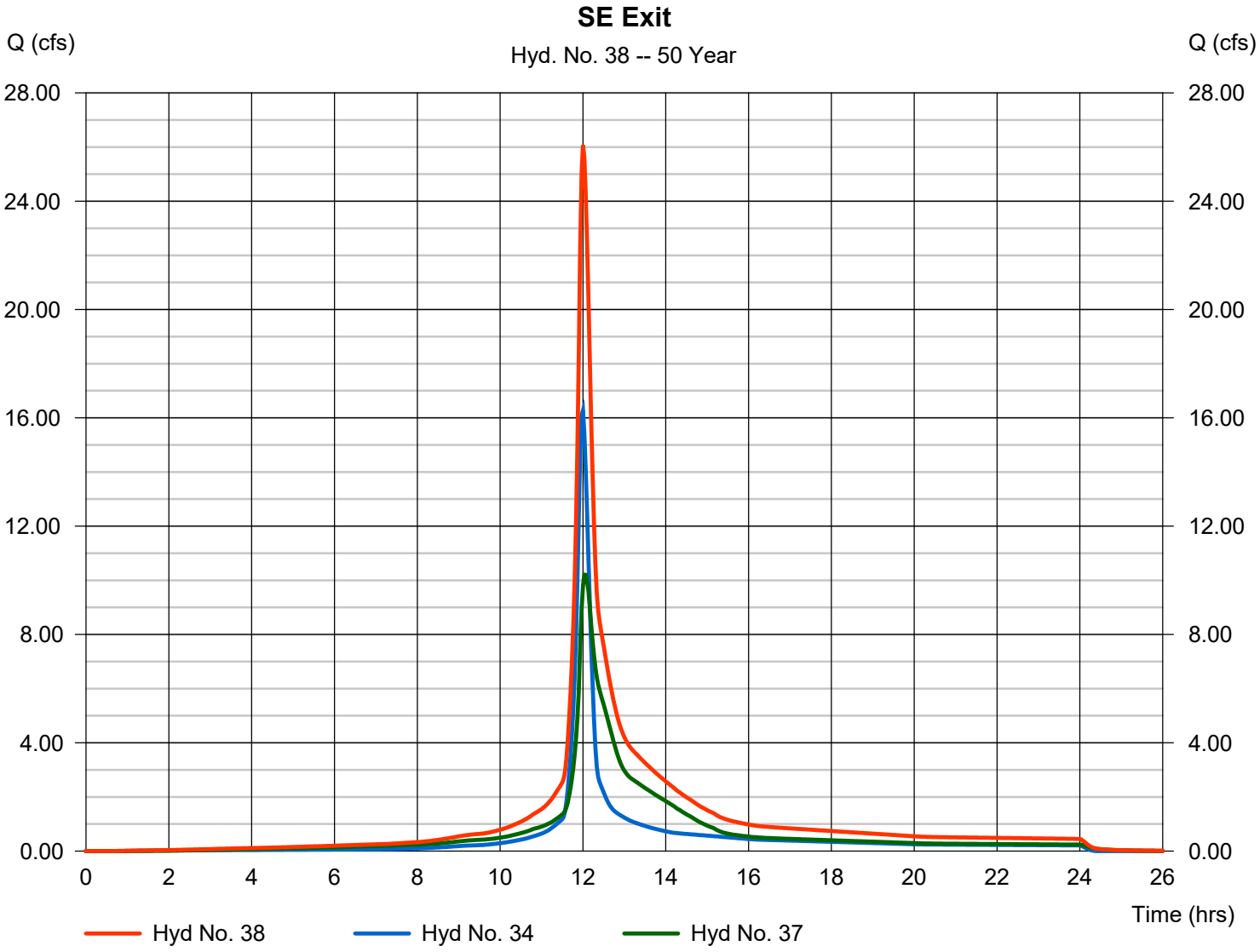


Hydrograph Report

Hyd. No. 38

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	26.07 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	112,307 cuft
Inflow hyds.	=	34, 37	Contrib. drain. area	=	0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	16.25	2	722	45,705	------	------	------	1
2	SCS Runoff	38.86	2	718	89,572	------	------	------	2
3	SCS Runoff	14.50	2	720	37,739	------	------	------	3
4	SCS Runoff	18.36	2	722	51,652	------	------	------	4
5	SCS Runoff	0.664	2	722	1,869	------	------	------	5
6	Combine	32.60	2	722	89,391	3, 4,	------	------	SE Exit
8	SCS Runoff	5.326	2	720	14,248	------	------	------	10
9	SCS Runoff	15.05	2	720	39,177	------	------	------	20
10	SCS Runoff	3.415	2	716	7,196	------	------	------	21
11	SCS Runoff	3.322	2	716	8,039	------	------	------	22
12	SCS Runoff	16.84	2	722	47,402	------	------	------	23
13	SCS Runoff	0.750	2	716	1,815	------	------	------	24
14	SCS Runoff	0.750	2	716	1,815	------	------	------	25
15	SCS Runoff	5.195	2	722	14,612	------	------	------	30
16	SCS Runoff	0.107	2	716	259	------	------	------	31
17	SCS Runoff	0.214	2	716	519	------	------	------	32
18	SCS Runoff	0.536	2	716	1,297	------	------	------	33
19	SCS Runoff	15.52	2	722	43,666	------	------	------	40
20	SCS Runoff	0.857	2	716	2,075	------	------	------	41
21	SCS Runoff	0.857	2	716	2,075	------	------	------	42
22	SCS Runoff	2.357	2	716	5,705	------	------	------	43
23	SCS Runoff	1.714	2	716	4,149	------	------	------	44
24	SCS Runoff	1.607	2	716	3,890	------	------	------	50
25	SCS Runoff	5.143	2	716	12,448	------	------	------	60
26	SCS Runoff	7.174	2	716	16,242	------	------	------	61
27	SCS Runoff	4.147	2	722	12,093	------	------	------	62
28	SCS Runoff	1.741	2	718	4,702	------	------	------	63
29	SCS Runoff	2.666	2	722	7,774	------	------	------	64
30	SCS Runoff	1.286	2	716	3,112	------	------	------	65
32	Combine	37.37	2	720	105,445	9, 10, 11, 12, 13, 14,	------	------	Area 2 Into Pond
33	Combine	5.614	2	720	16,687	15, 16, 17, 18,	------	------	Area 3 Sub
34	Combine	19.17	2	720	57,670	19, 20, 21, 22, 23,	------	------	Area 4 Sub
35	Combine	20.79	2	718	56,372	25, 26, 27, 28, 29, 30,	------	------	Into Basin

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

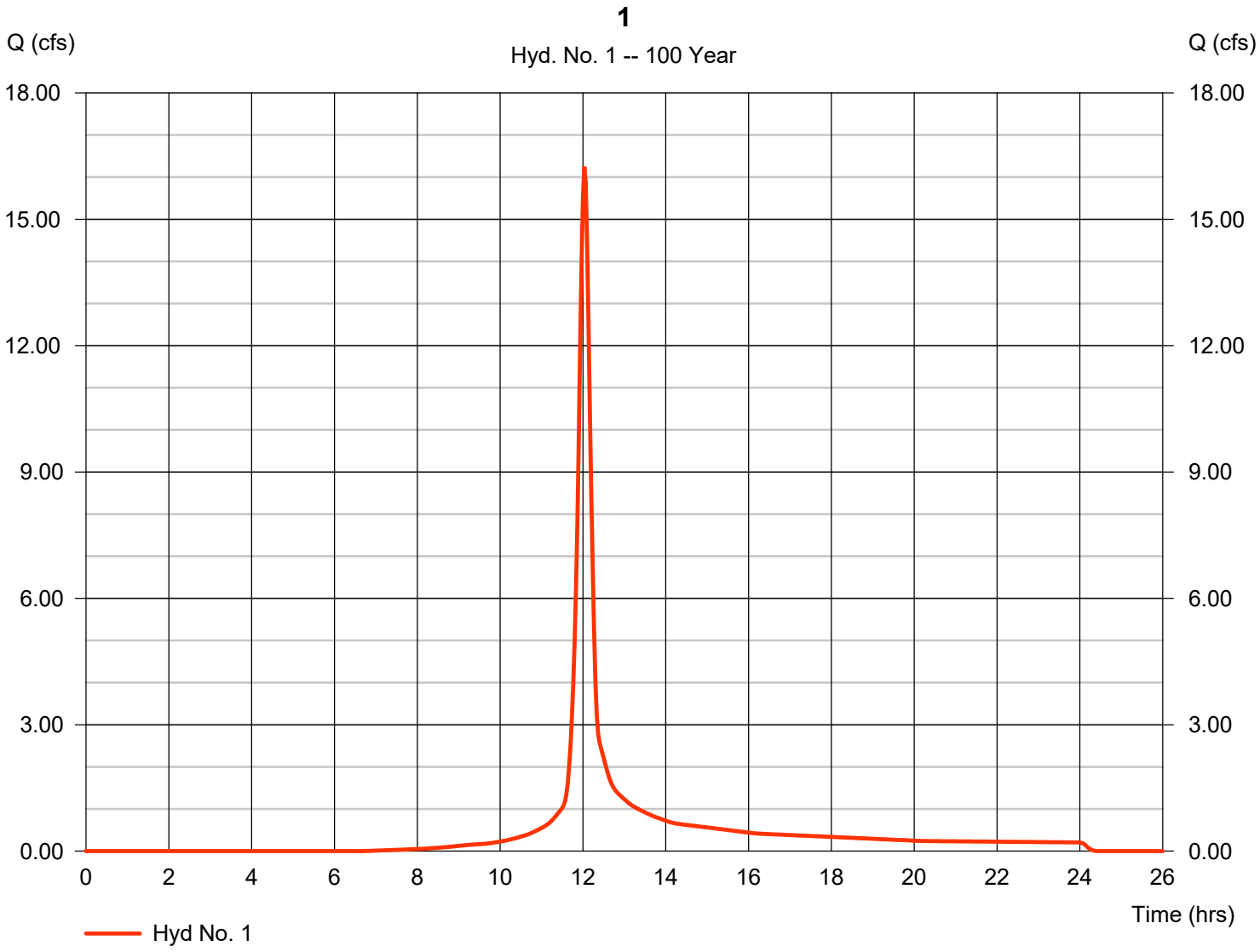
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
36	Reservoir	9.419	2	726	56,362	35	1257.35	16,484	ADS Out
37	Combine	14.37	2	724	73,048	33, 36	------	------	Area 3 + ADS Out
38	Combine	31.65	2	722	130,718	34, 37	------	------	SE Exit

Hydrograph Report

Hyd. No. 1

1

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.25 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	45,705 cuft
Drainage area	=	2.690 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	14.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

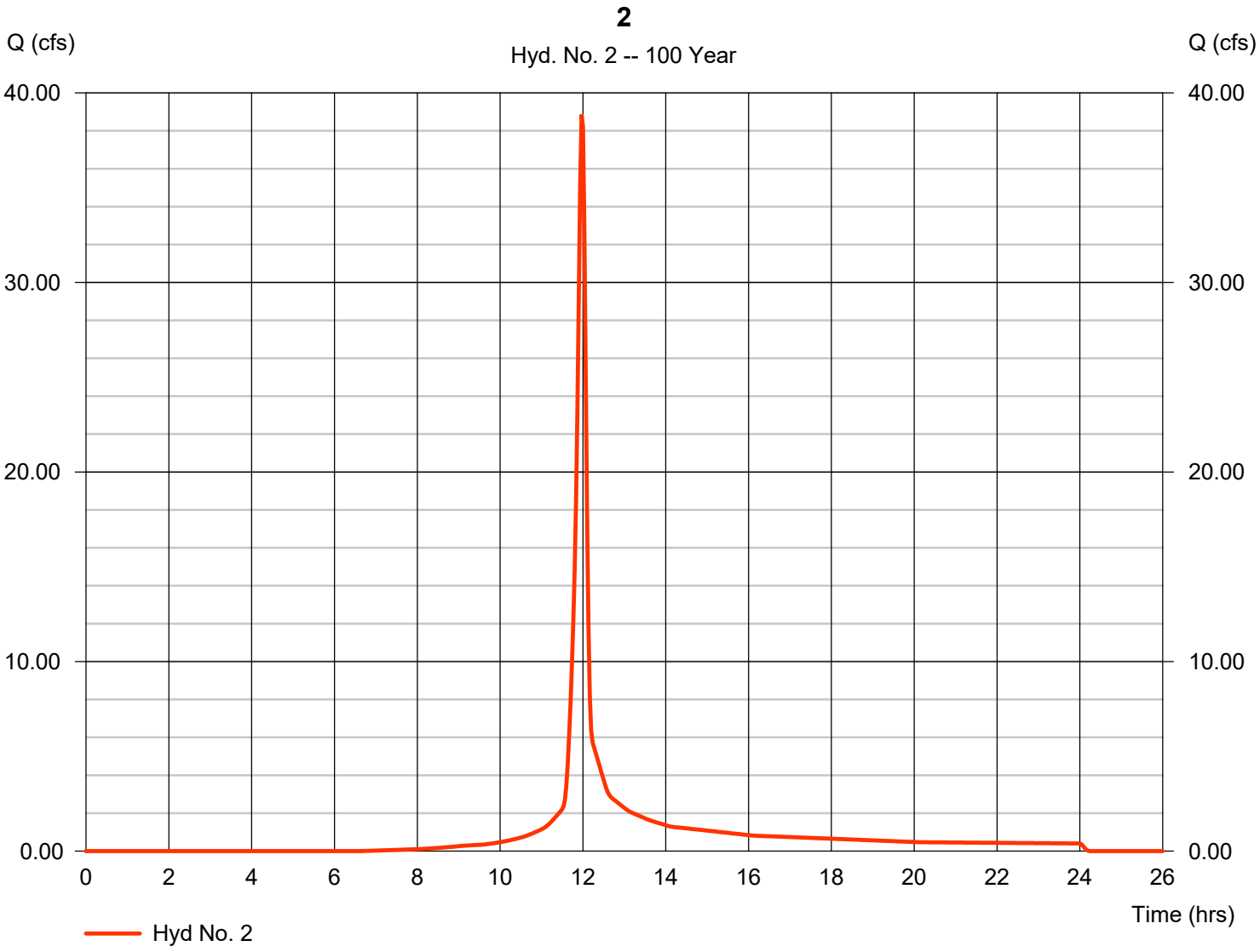


Hydrograph Report

Hyd. No. 2

2

Hydrograph type	=	SCS Runoff	Peak discharge	=	38.86 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	89,572 cuft
Drainage area	=	5.140 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	9.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

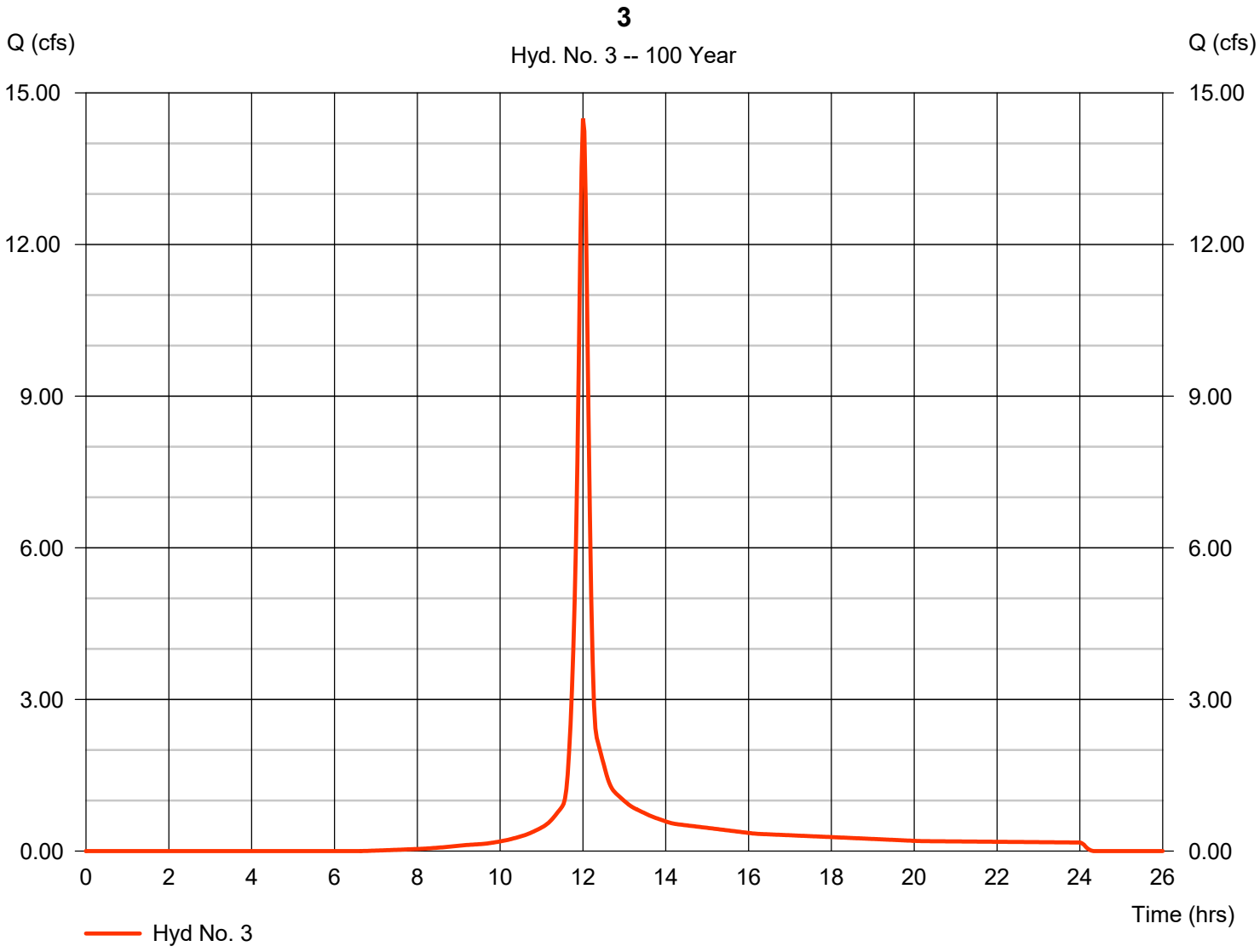


Hydrograph Report

Hyd. No. 3

3

Hydrograph type	=	SCS Runoff	Peak discharge	=	14.50 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	37,739 cuft
Drainage area	=	2.100 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	13.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

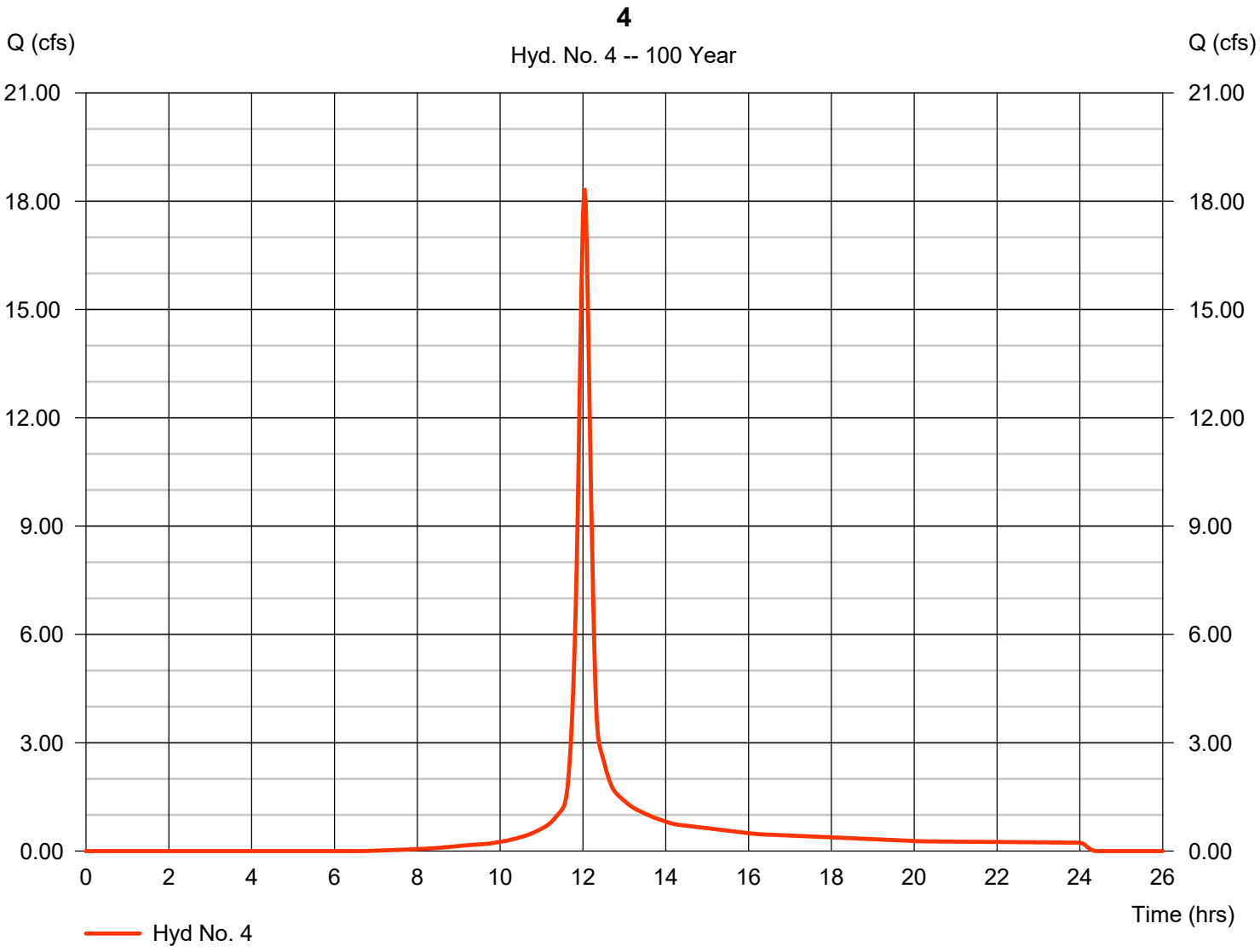


Hydrograph Report

Hyd. No. 4

4

Hydrograph type	=	SCS Runoff	Peak discharge	=	18.36 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	51,652 cuft
Drainage area	=	3.040 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

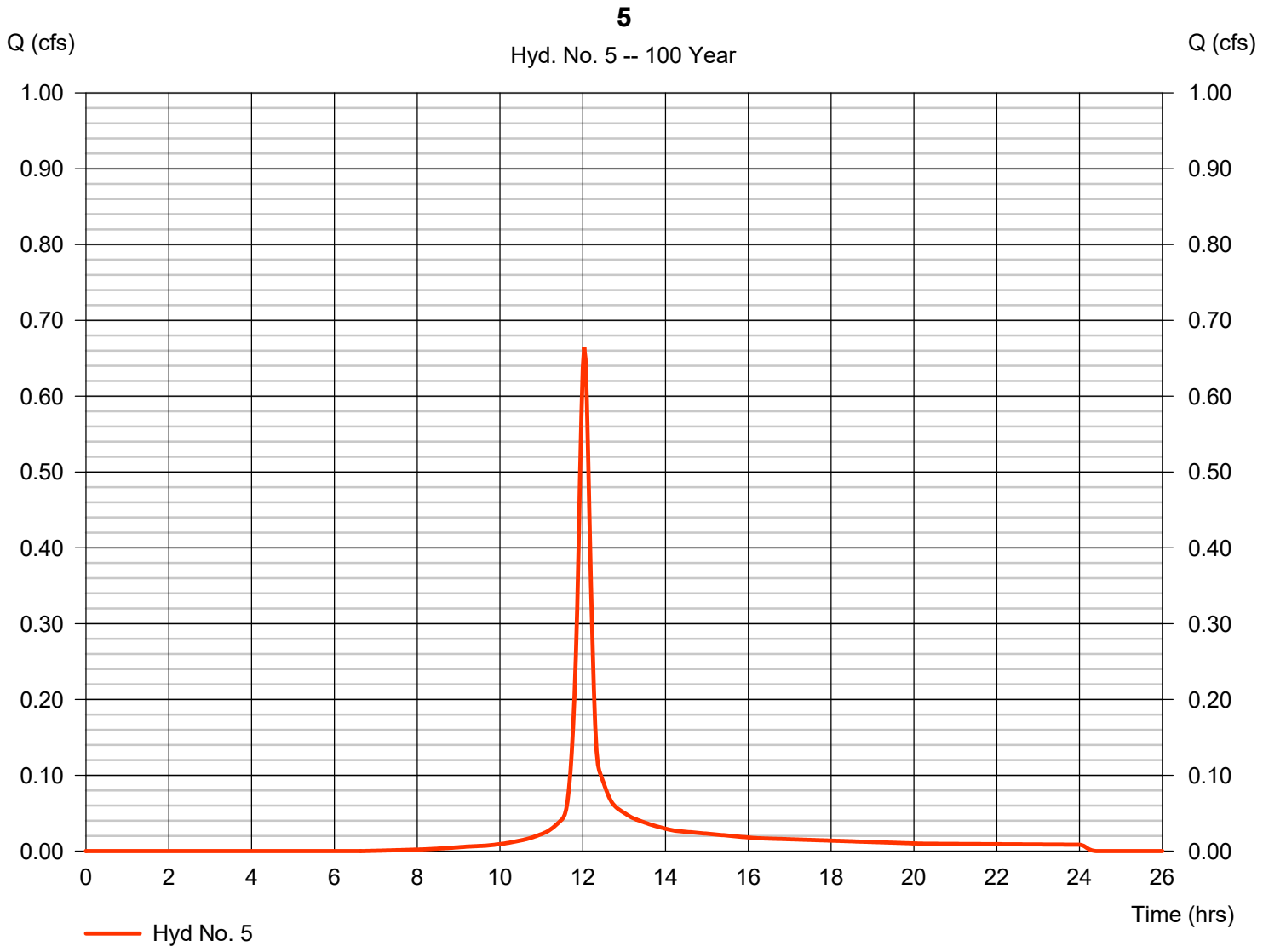


Hydrograph Report

Hyd. No. 5

5

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.664 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	1,869 cuft
Drainage area	=	0.110 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

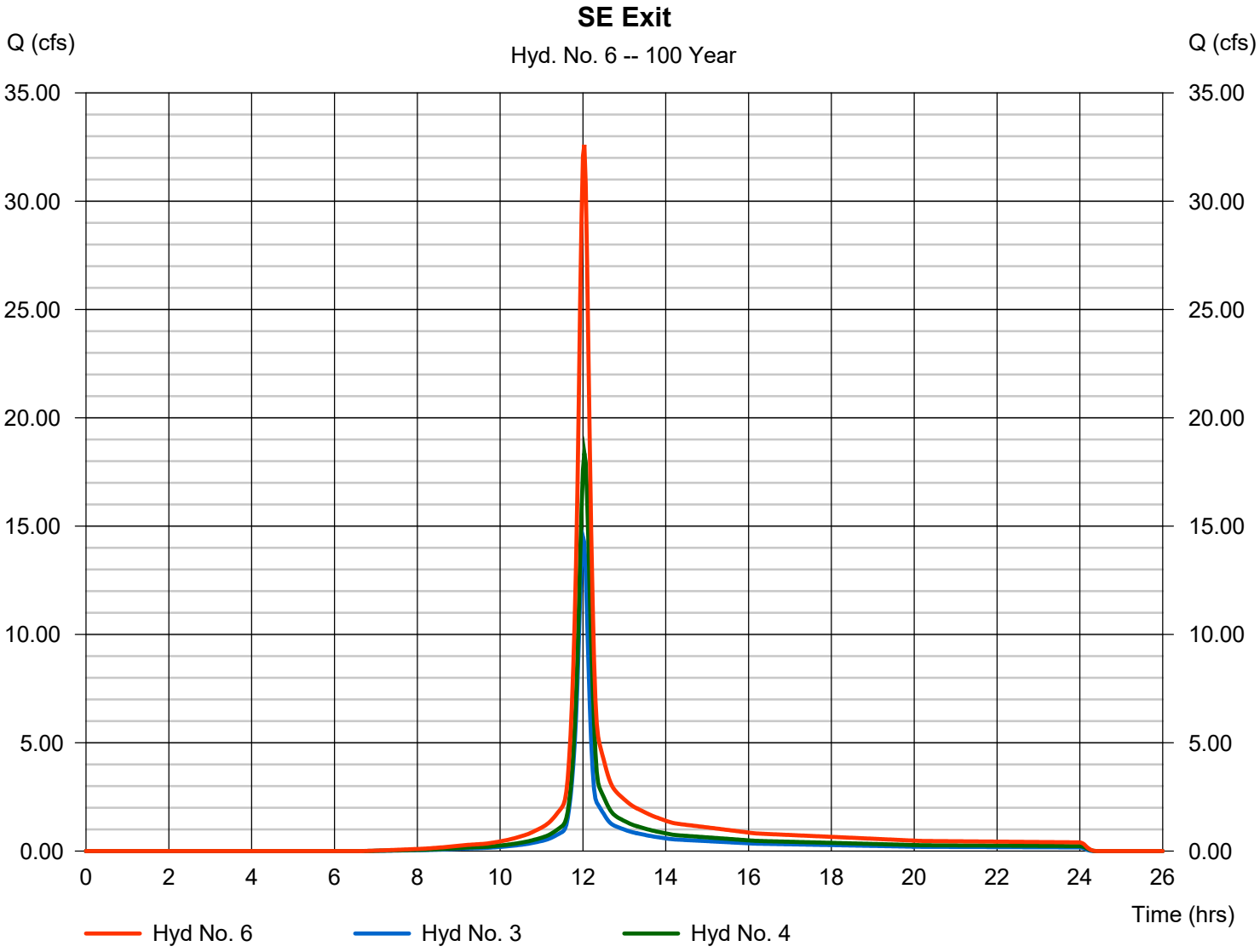


Hydrograph Report

Hyd. No. 6

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	32.60 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	89,391 cuft
Inflow hyds.	=	3, 4	Contrib. drain. area	=	5.140 ac

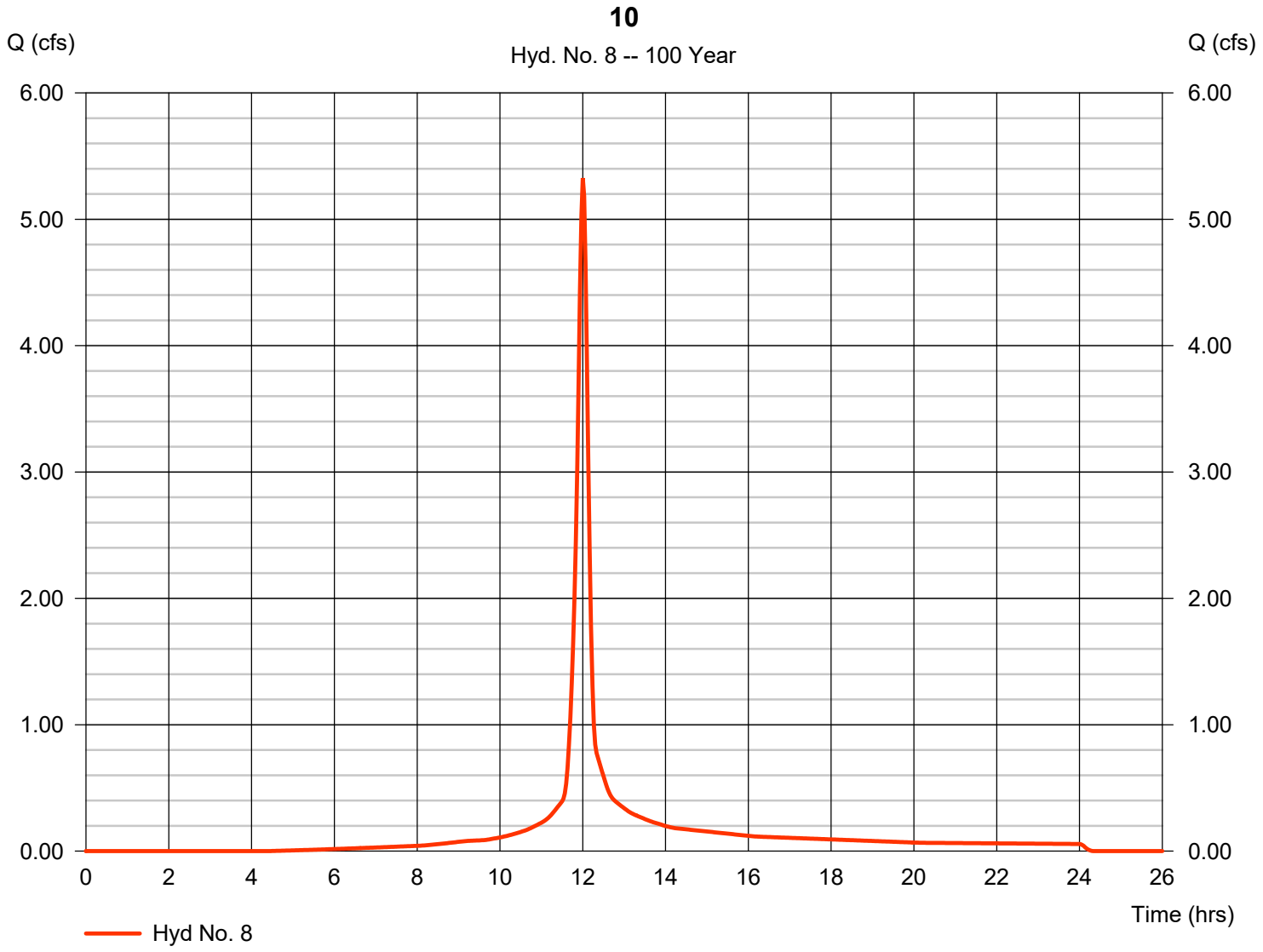


Hydrograph Report

Hyd. No. 8

10

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.326 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	14,248 cuft
Drainage area	=	0.650 ac	Curve number	=	83.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

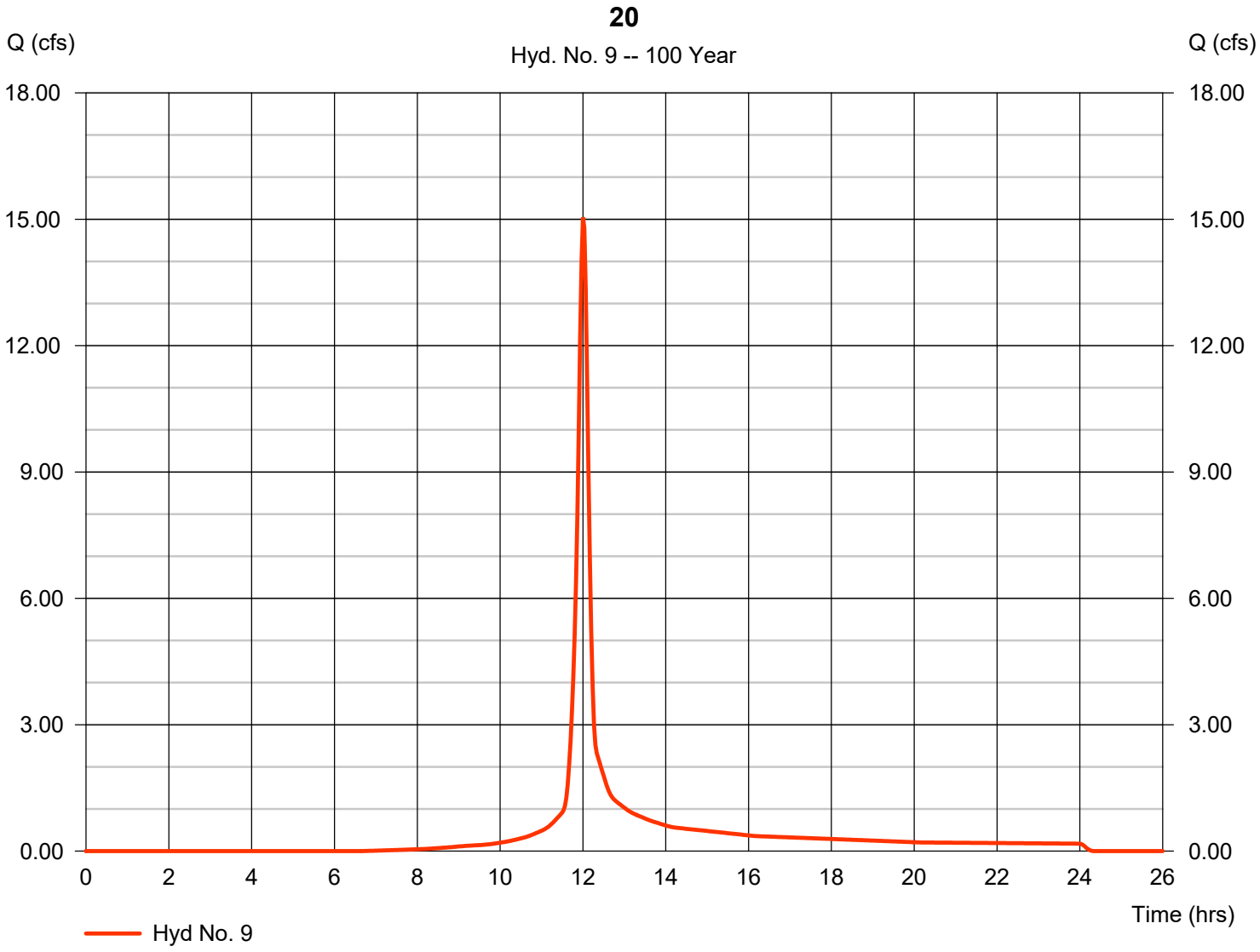


Hydrograph Report

Hyd. No. 9

20

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.05 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	39,177 cuft
Drainage area	=	2.180 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	12.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

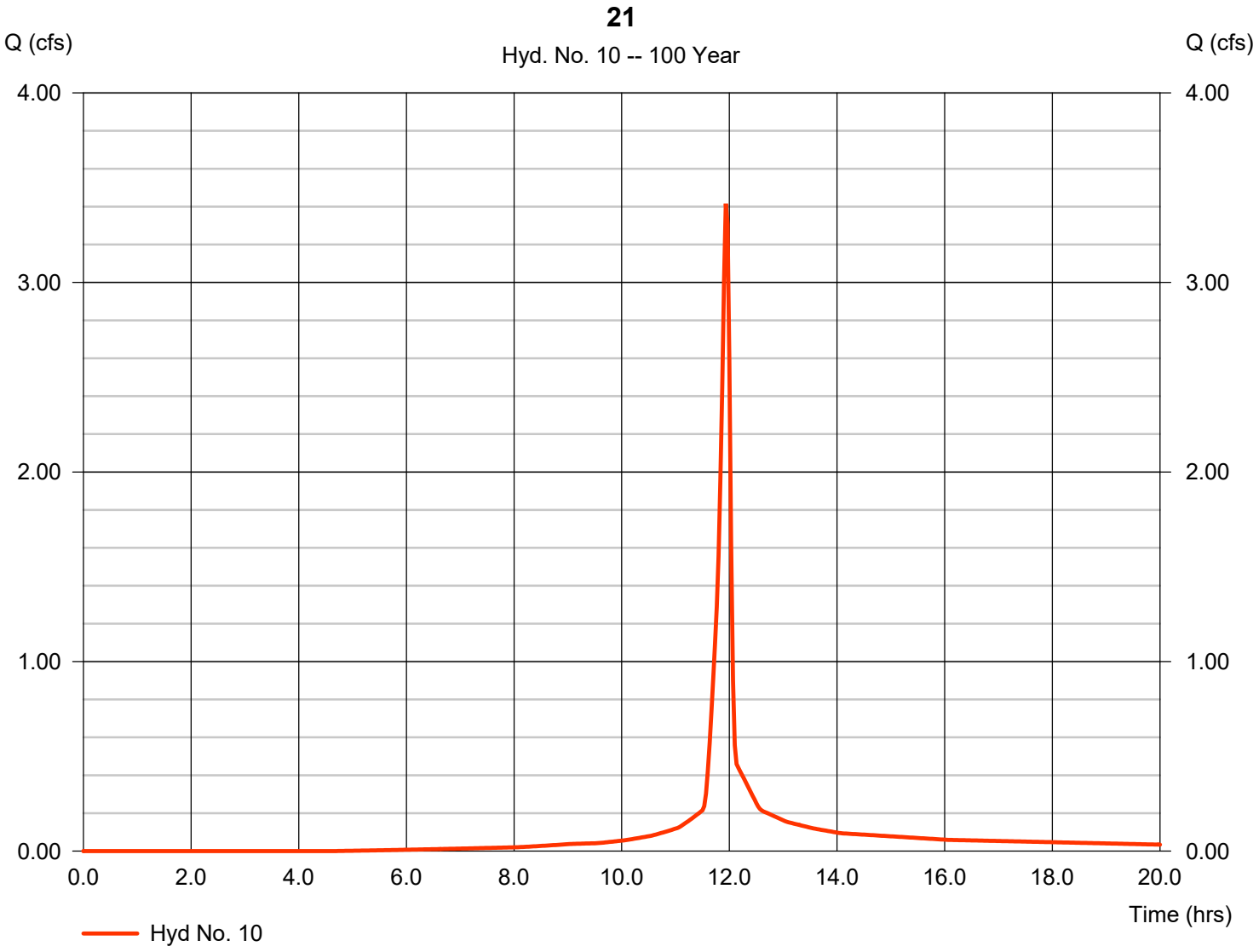


Hydrograph Report

Hyd. No. 10

21

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.415 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	7,196 cuft
Drainage area	=	0.370 ac	Curve number	=	81.9
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

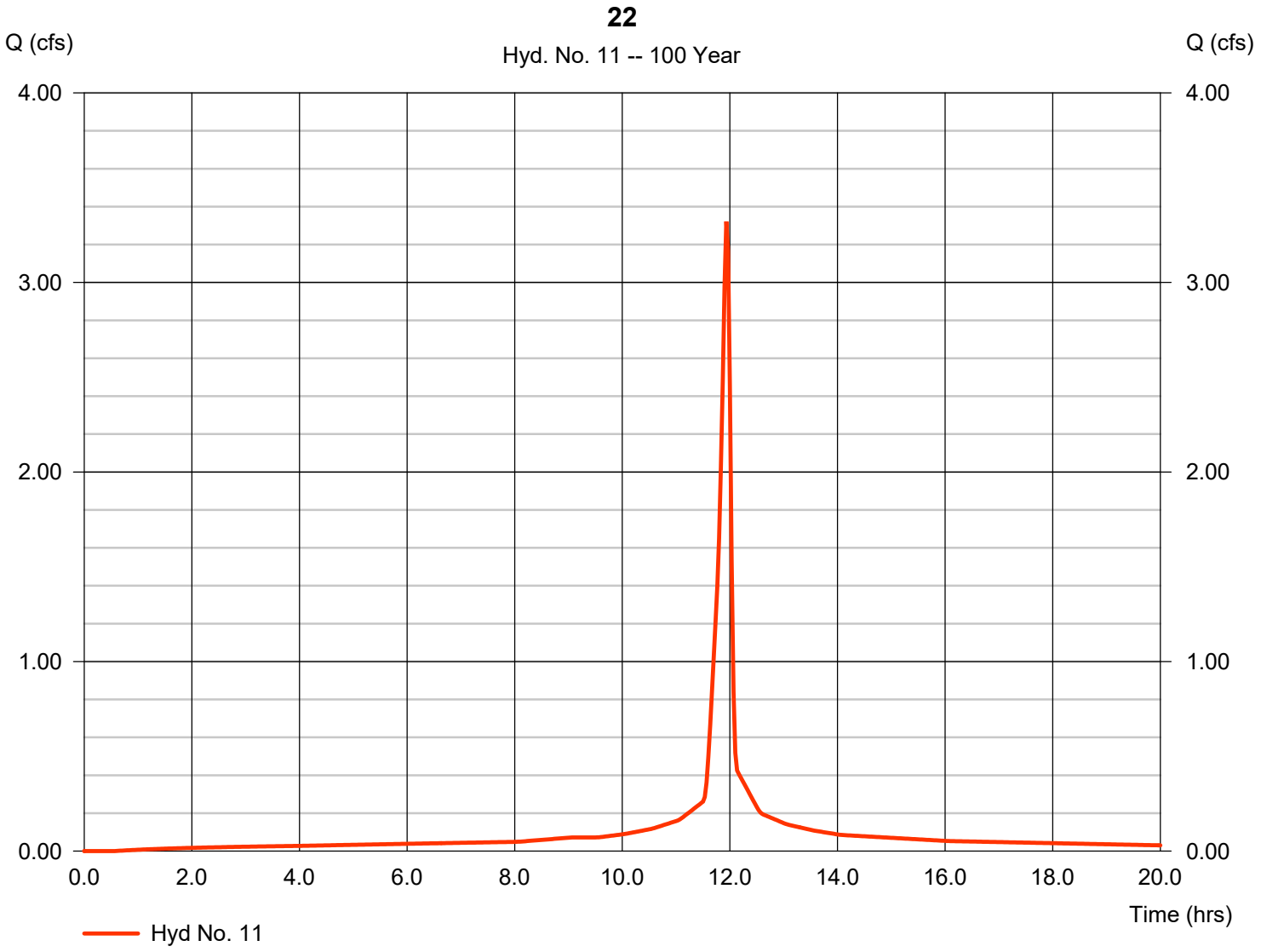


Hydrograph Report

Hyd. No. 11

22

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.322 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	8,039 cuft
Drainage area	=	0.310 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

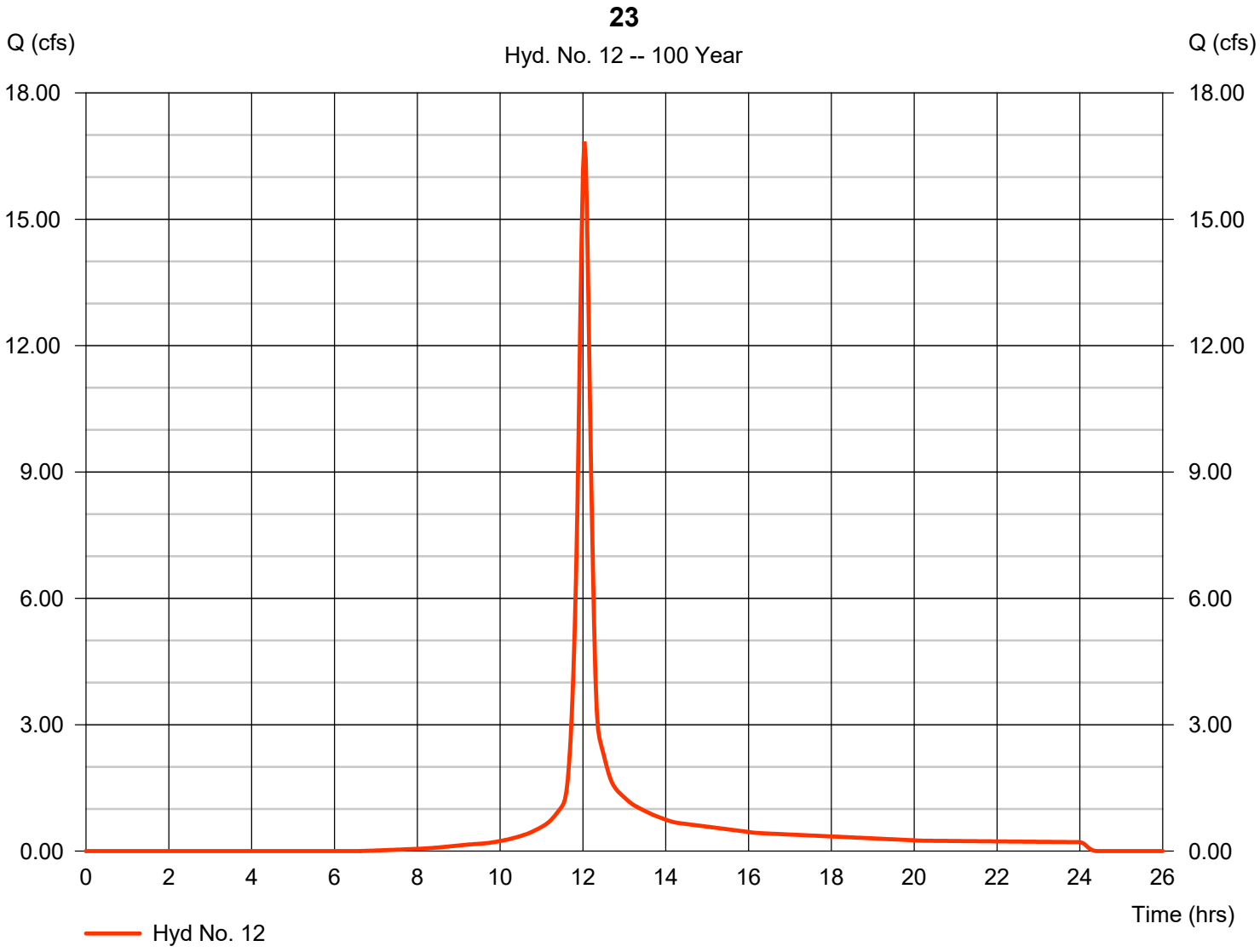


Hydrograph Report

Hyd. No. 12

23

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.84 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	47,402 cuft
Drainage area	=	2.770 ac	Curve number	=	74.3
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

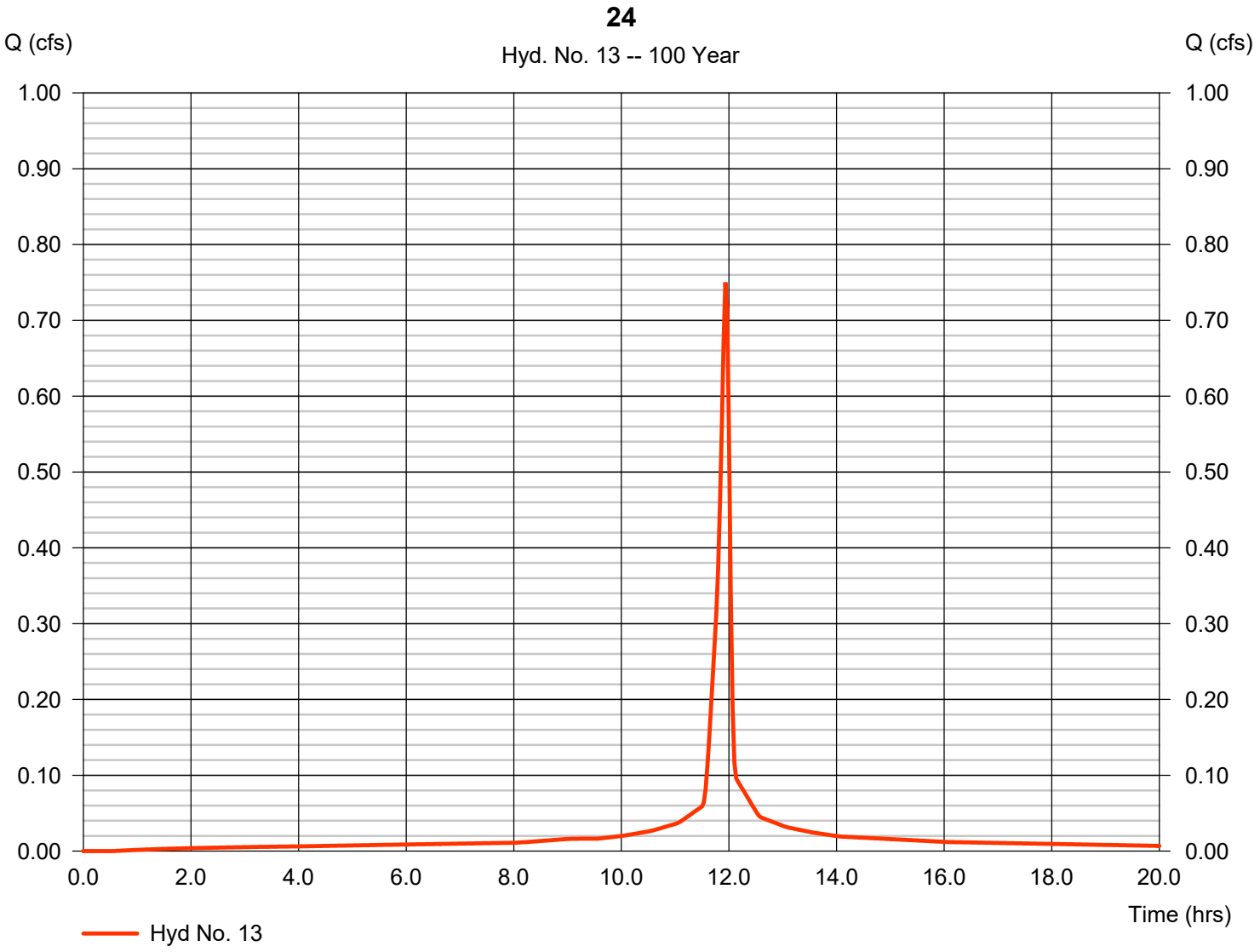


Hydrograph Report

Hyd. No. 13

24

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.750 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,815 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

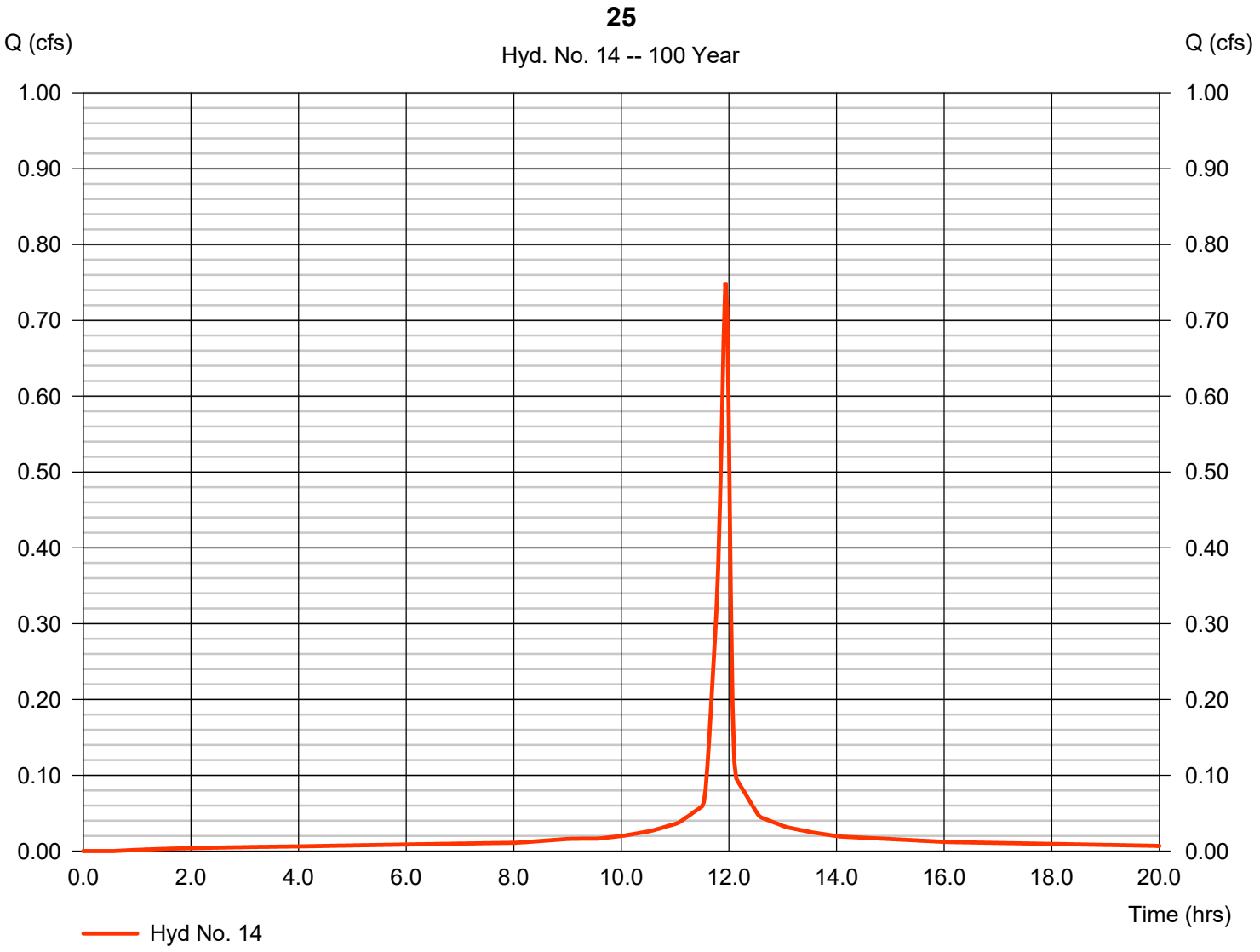


Hydrograph Report

Hyd. No. 14

25

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.750 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,815 cuft
Drainage area	=	0.070 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

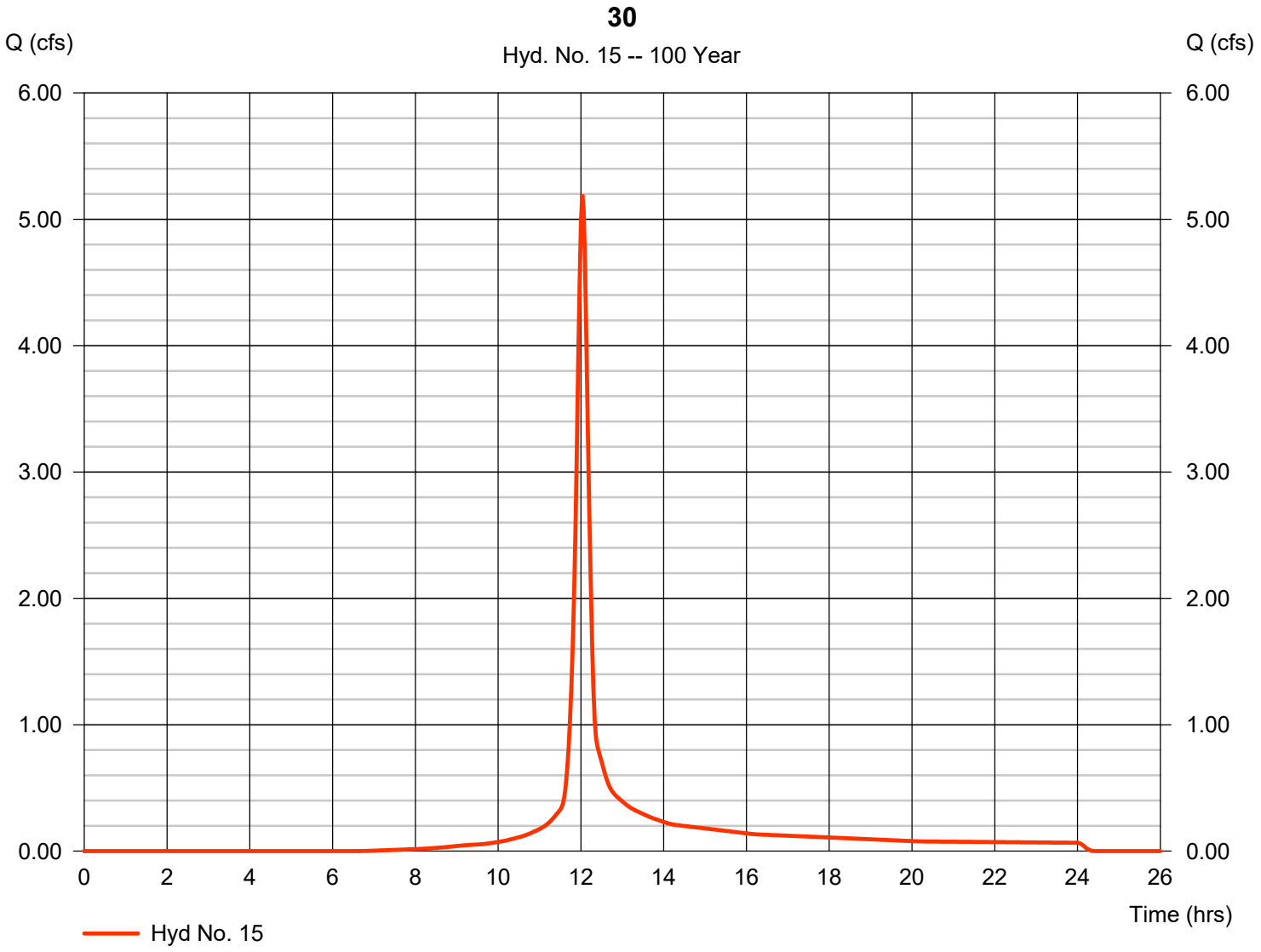


Hydrograph Report

Hyd. No. 15

30

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.195 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	14,612 cuft
Drainage area	=	0.860 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

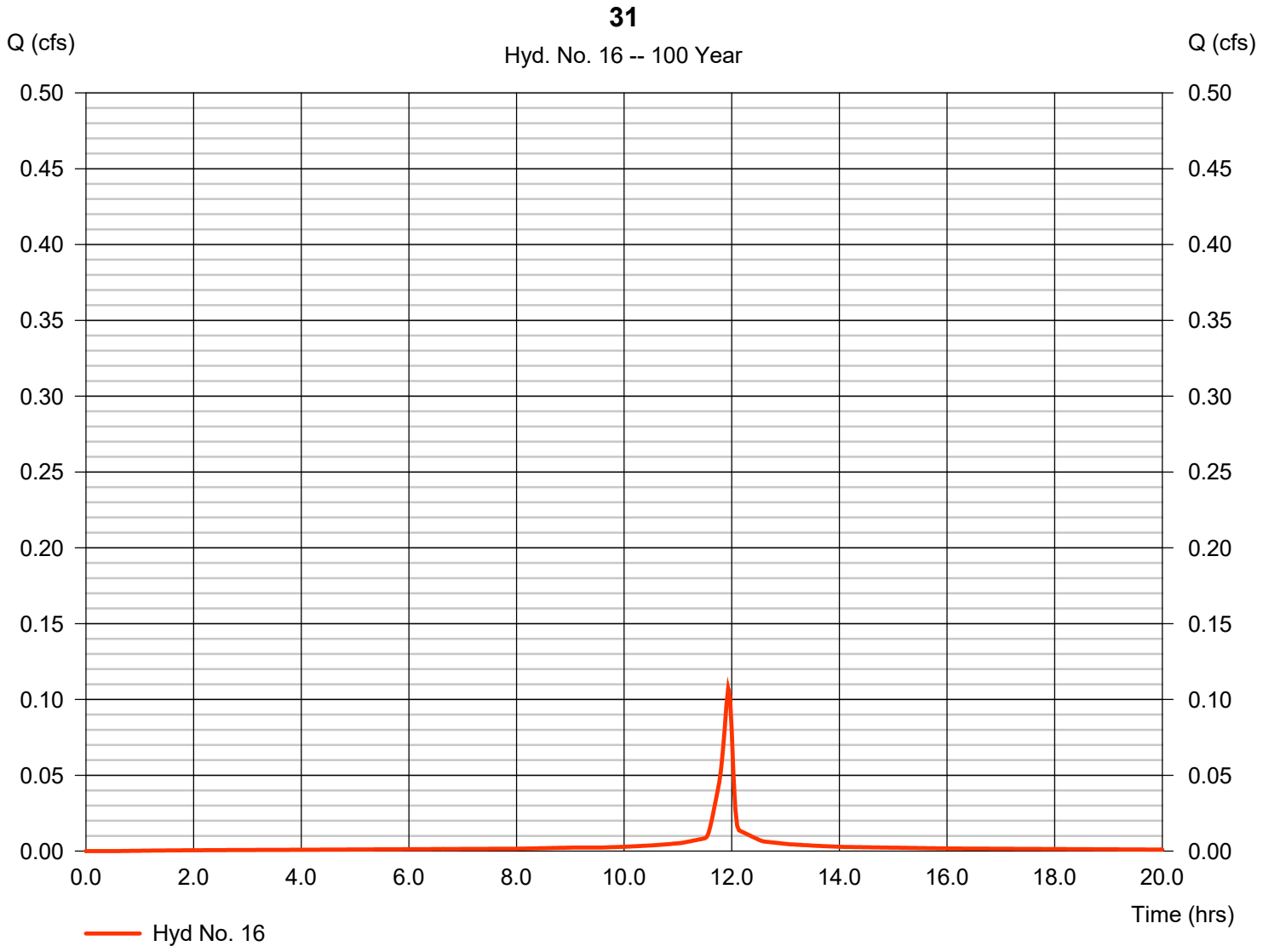


Hydrograph Report

Hyd. No. 16

31

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.107 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	259 cuft
Drainage area	=	0.010 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

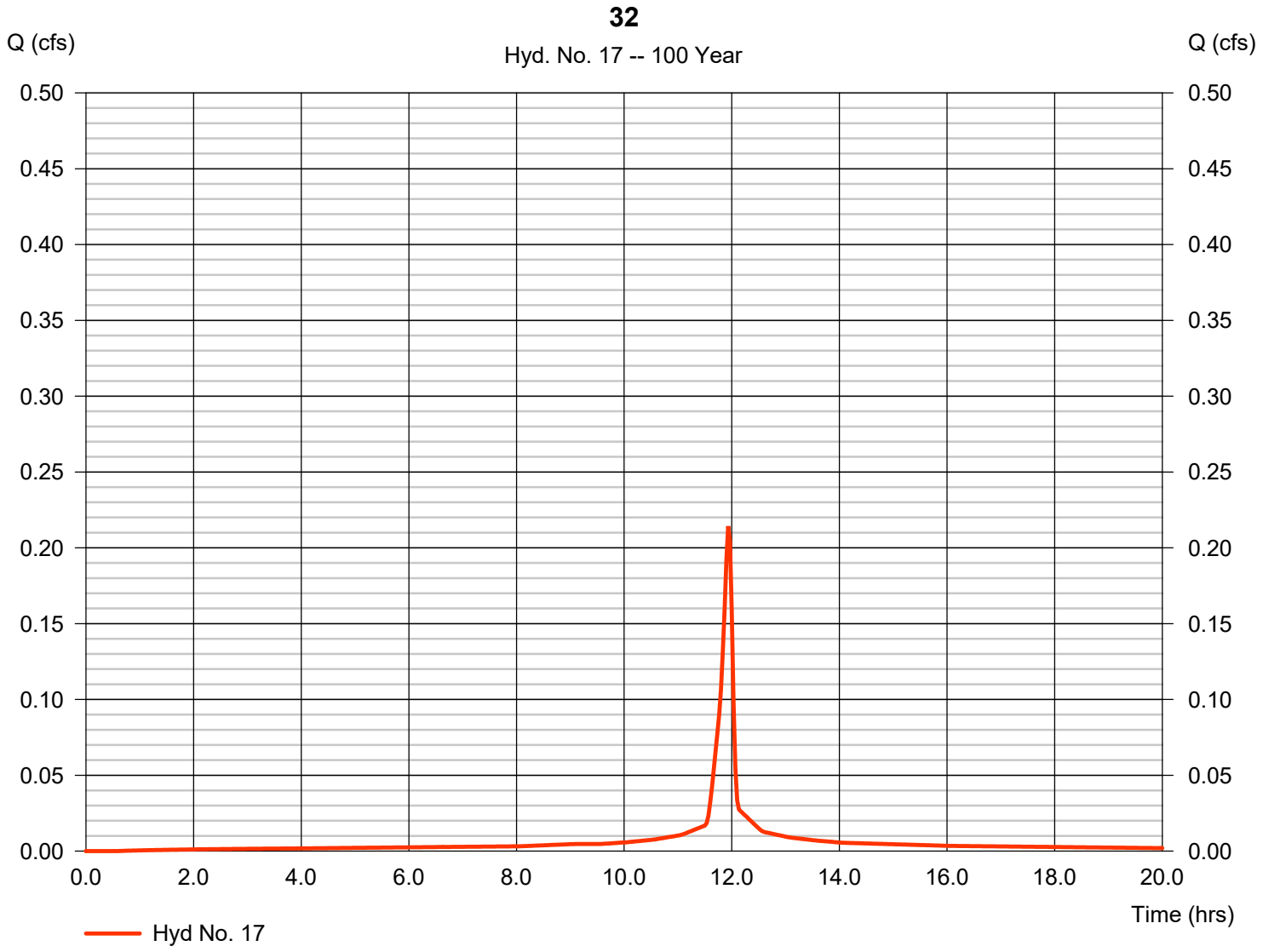


Hydrograph Report

Hyd. No. 17

32

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.214 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	519 cuft
Drainage area	=	0.020 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

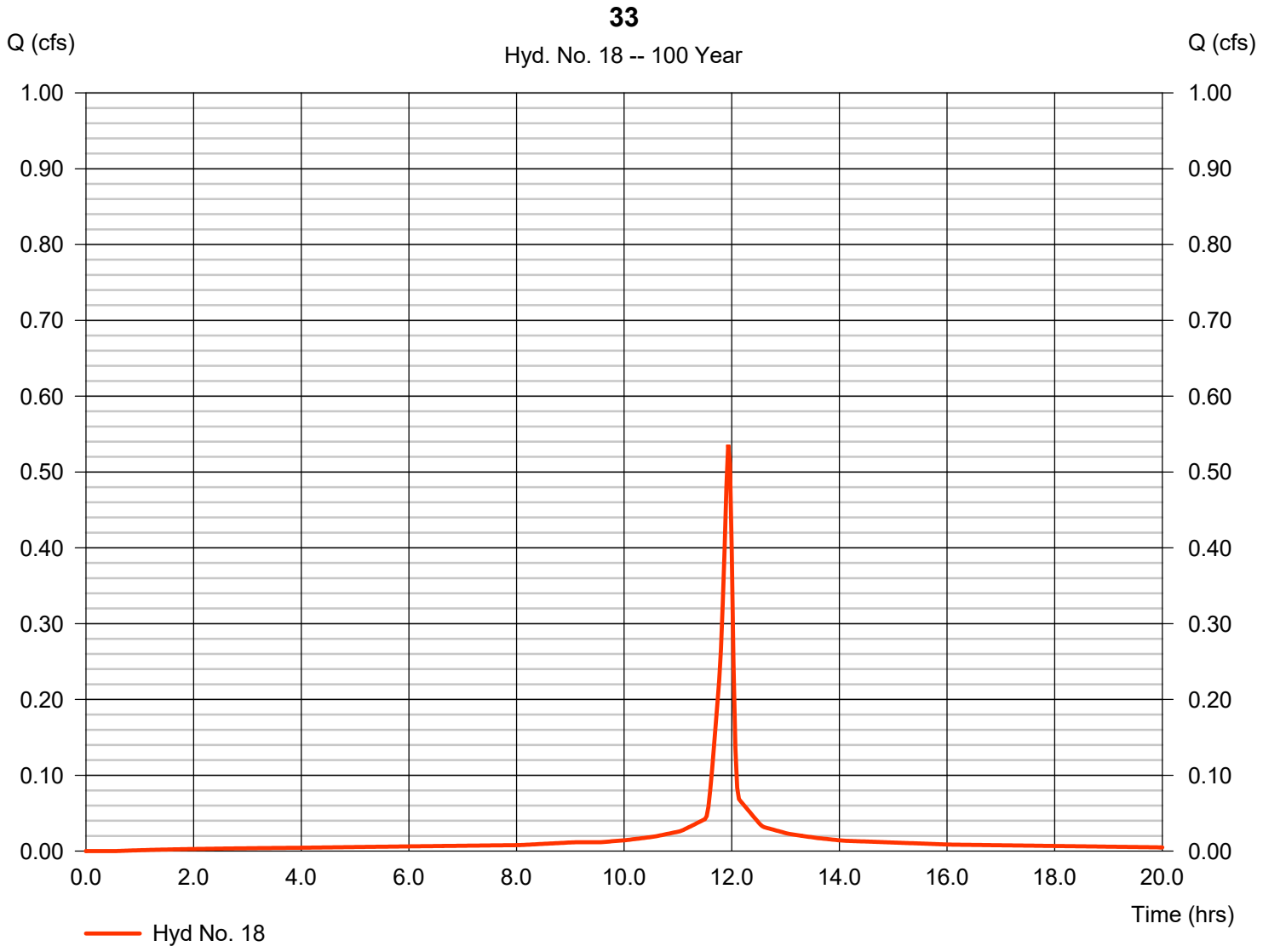


Hydrograph Report

Hyd. No. 18

33

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.536 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	1,297 cuft
Drainage area	=	0.050 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

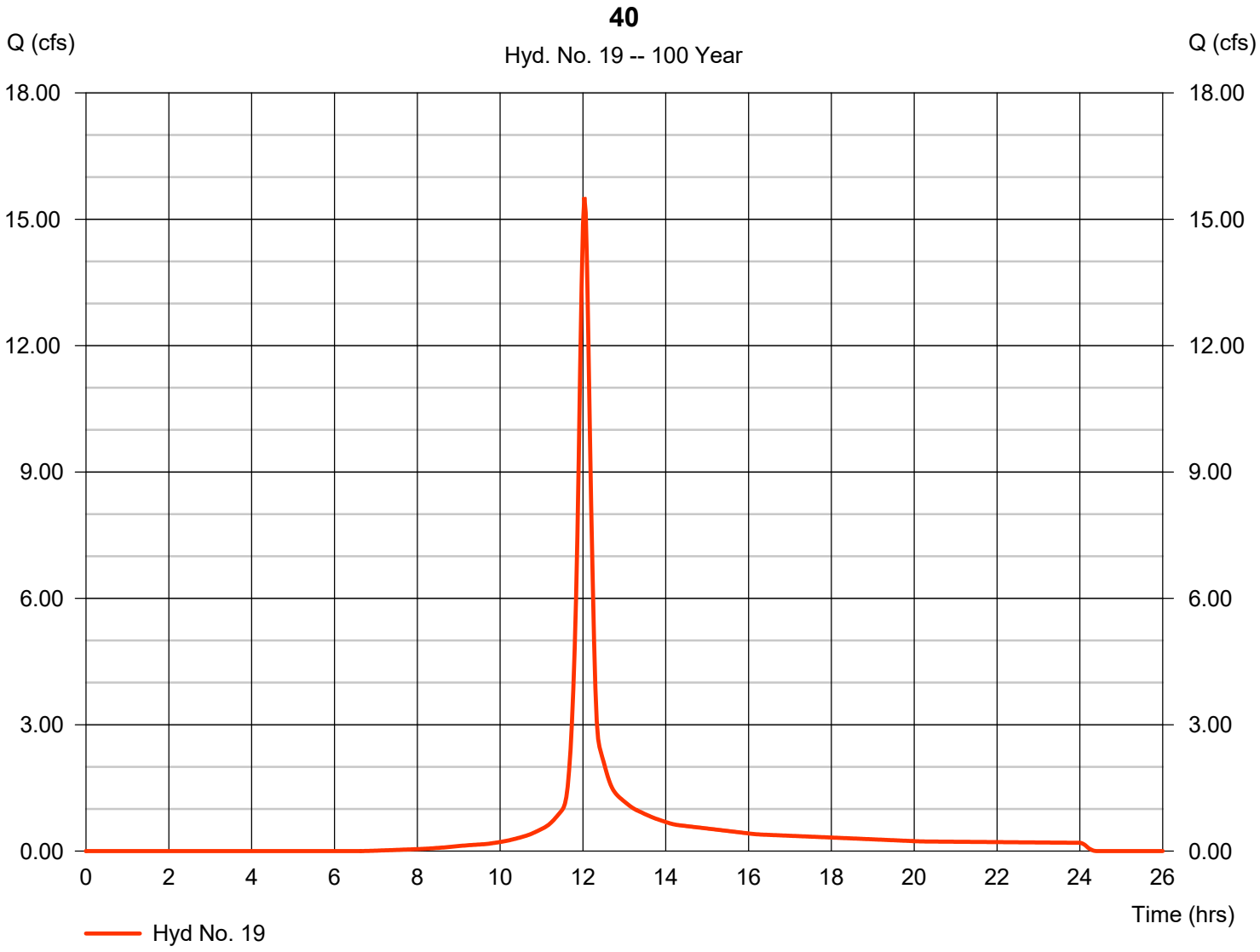


Hydrograph Report

Hyd. No. 19

40

Hydrograph type	=	SCS Runoff	Peak discharge	=	15.52 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	43,666 cuft
Drainage area	=	2.570 ac	Curve number	=	74
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

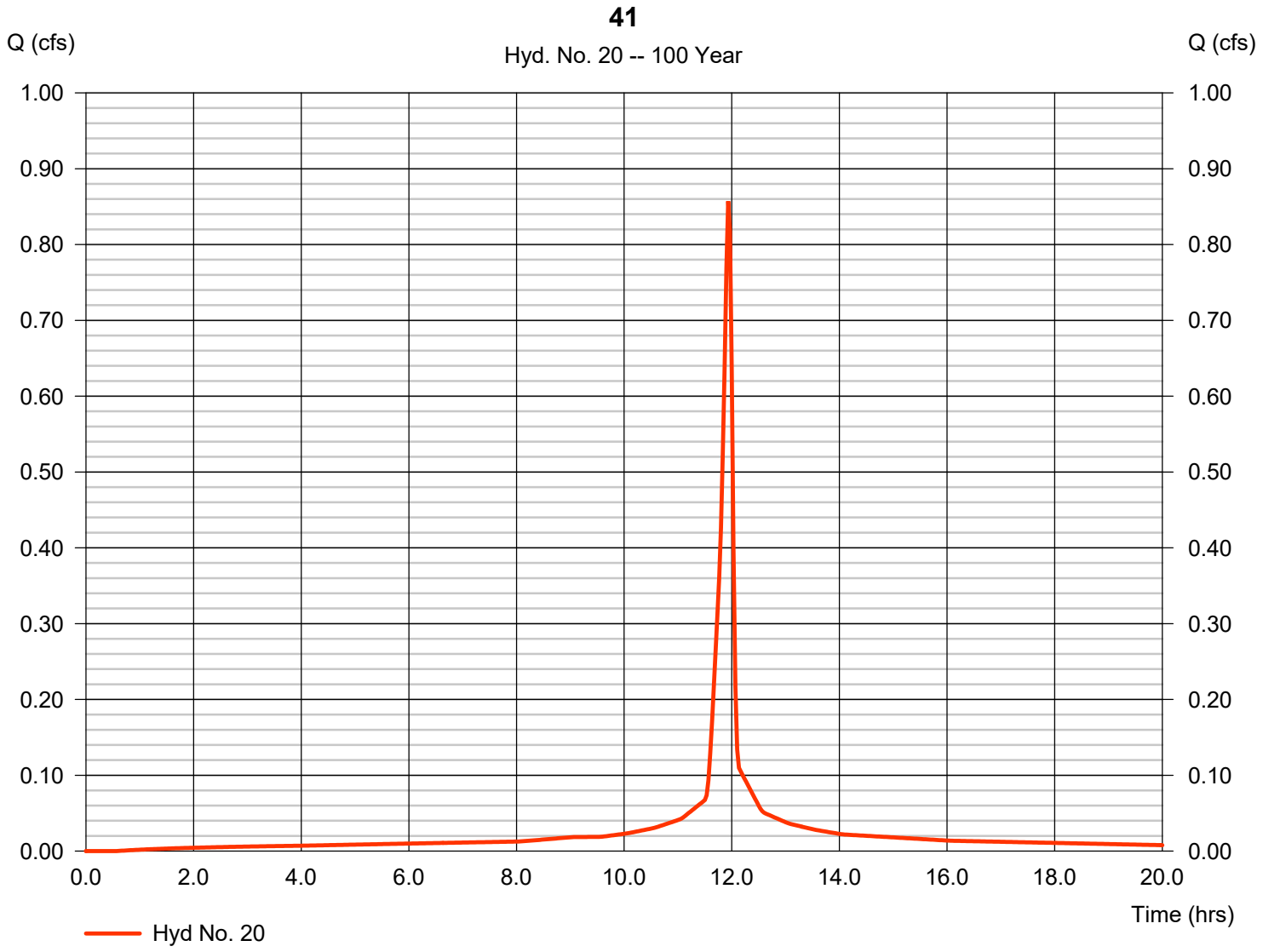


Hydrograph Report

Hyd. No. 20

41

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.857 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,075 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

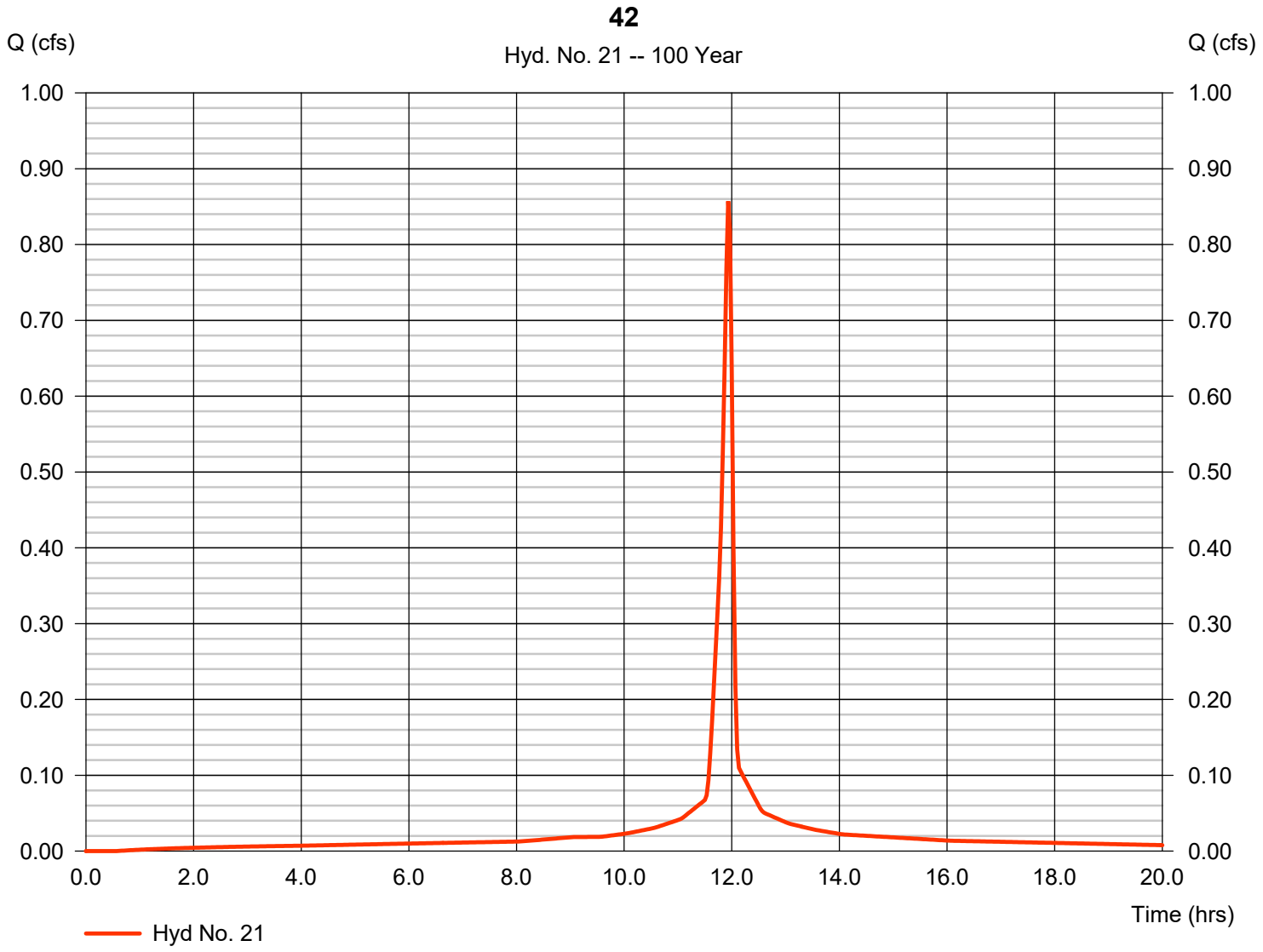


Hydrograph Report

Hyd. No. 21

42

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.857 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	2,075 cuft
Drainage area	=	0.080 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

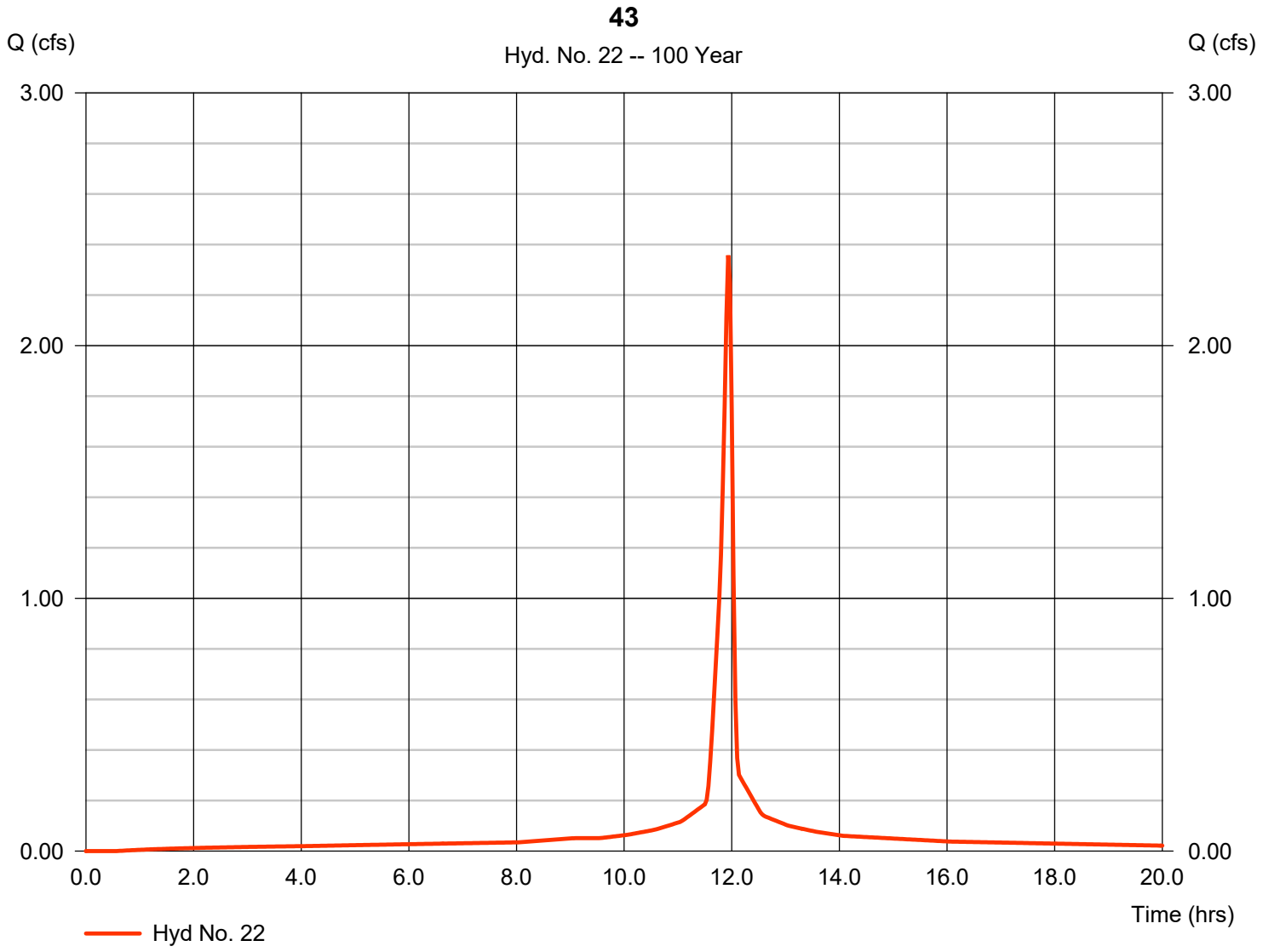


Hydrograph Report

Hyd. No. 22

43

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.357 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	5,705 cuft
Drainage area	=	0.220 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

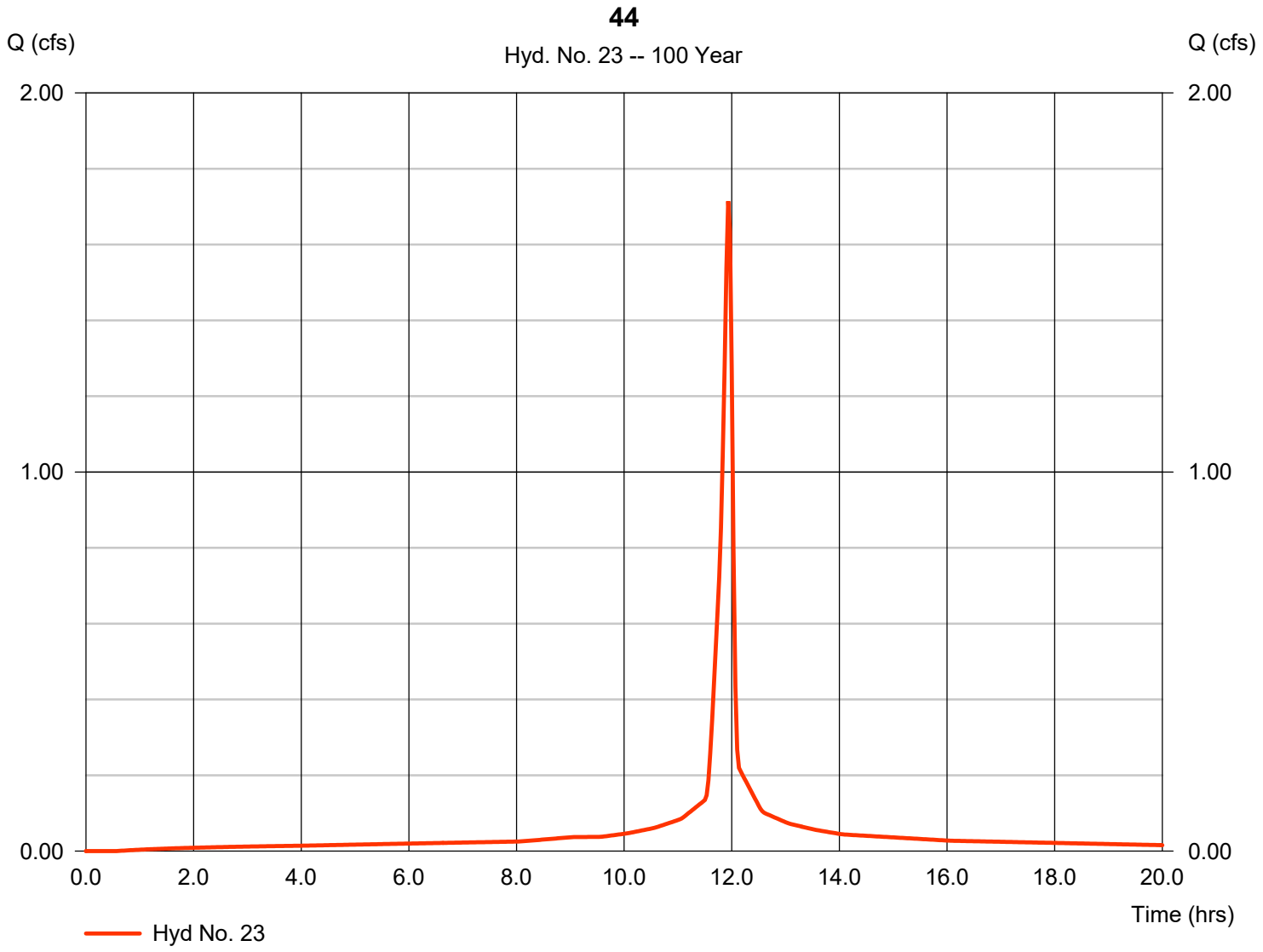


Hydrograph Report

Hyd. No. 23

44

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.714 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	4,149 cuft
Drainage area	=	0.160 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

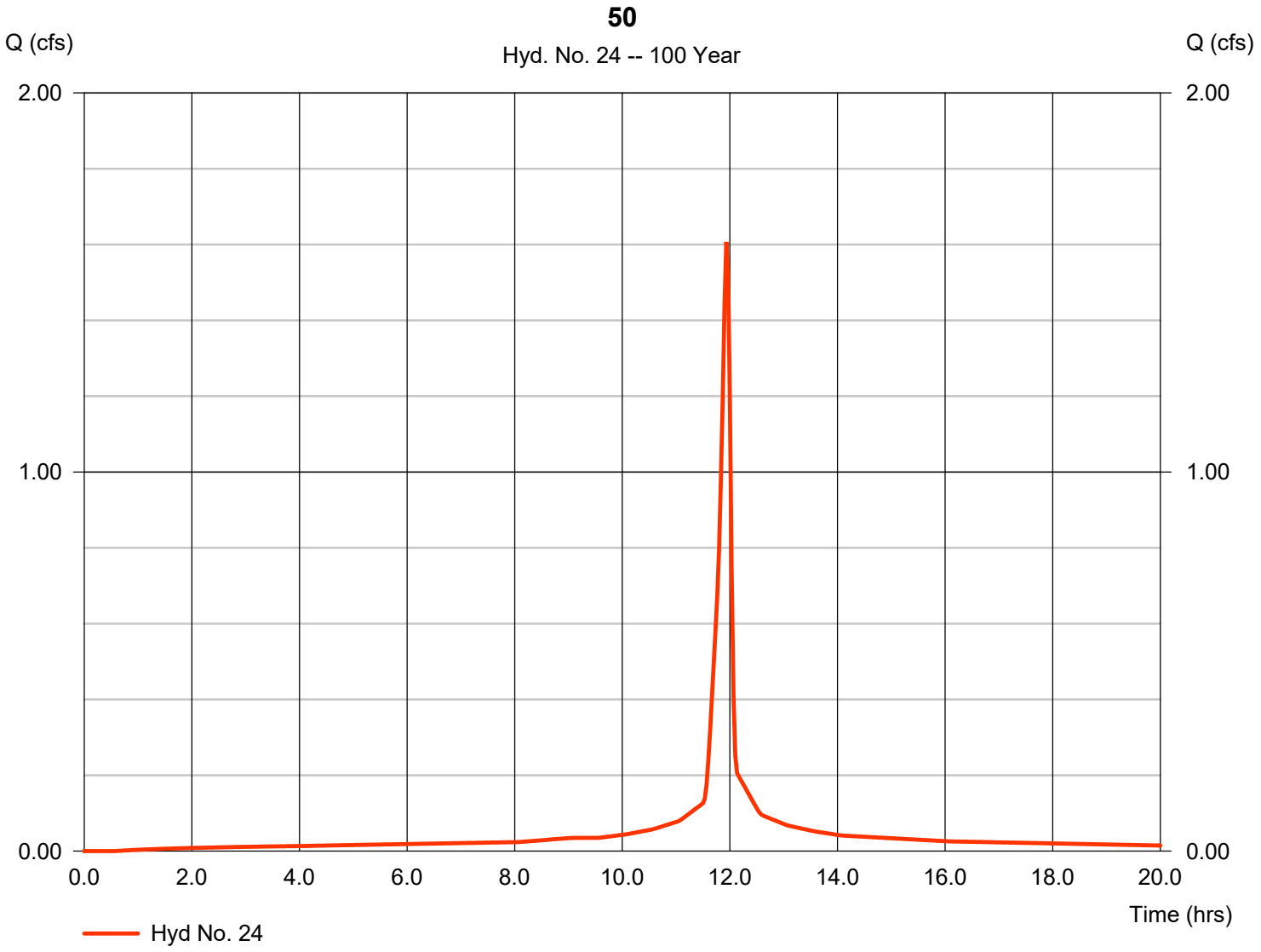


Hydrograph Report

Hyd. No. 24

50

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.607 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,890 cuft
Drainage area	=	0.150 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

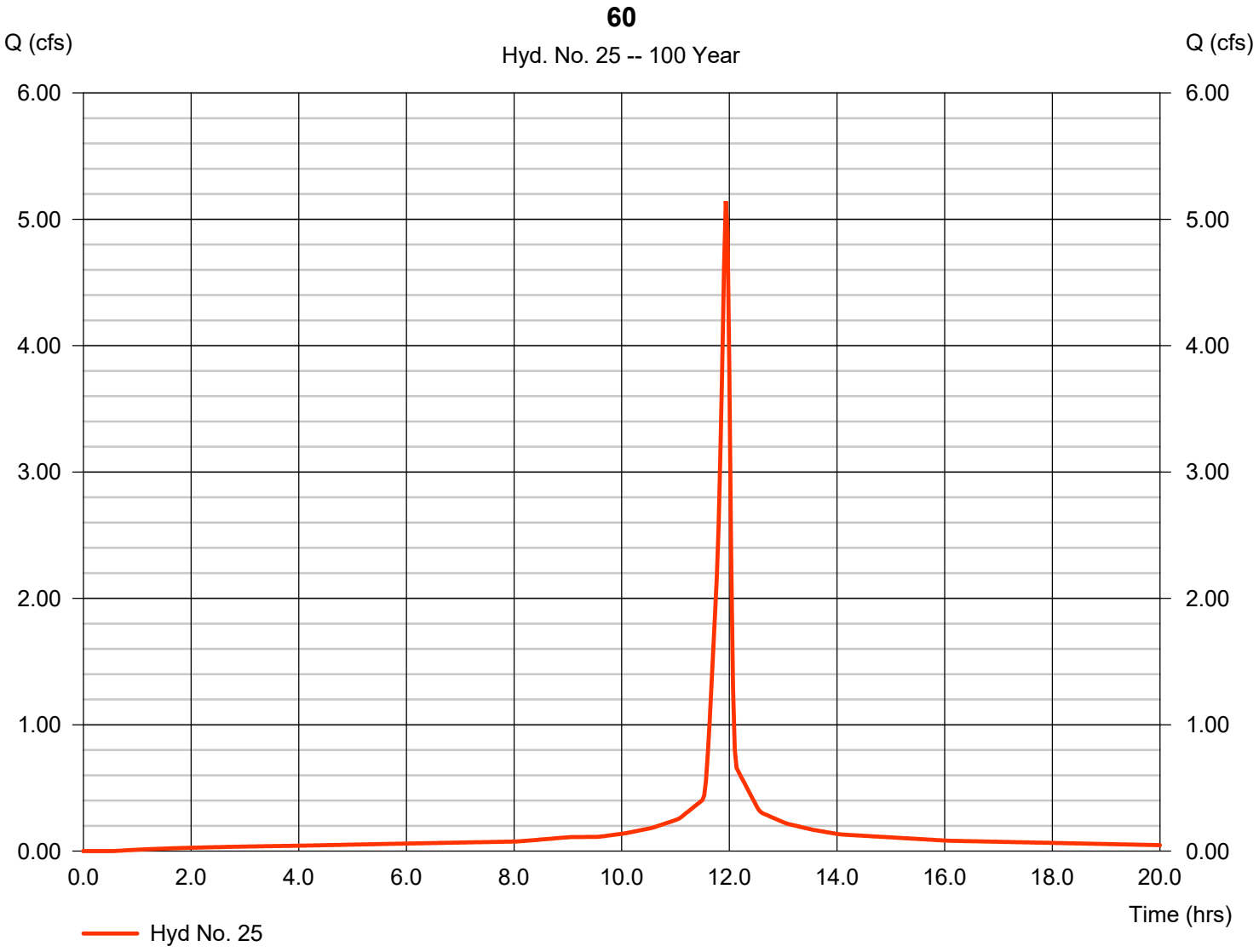


Hydrograph Report

Hyd. No. 25

60

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.143 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	12,448 cuft
Drainage area	=	0.480 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

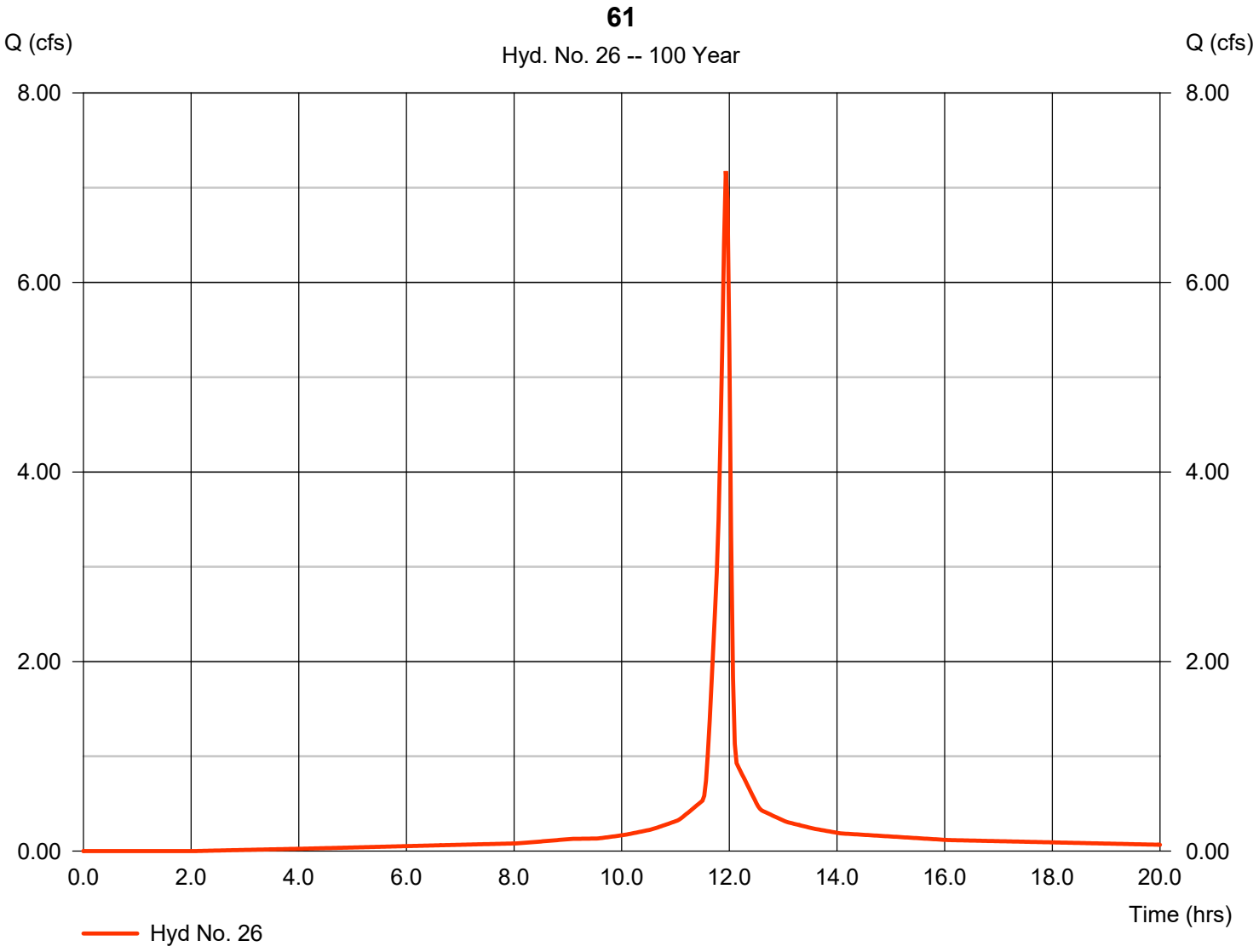


Hydrograph Report

Hyd. No. 26

61

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.174 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	16,242 cuft
Drainage area	=	0.690 ac	Curve number	=	92.1
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	6.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

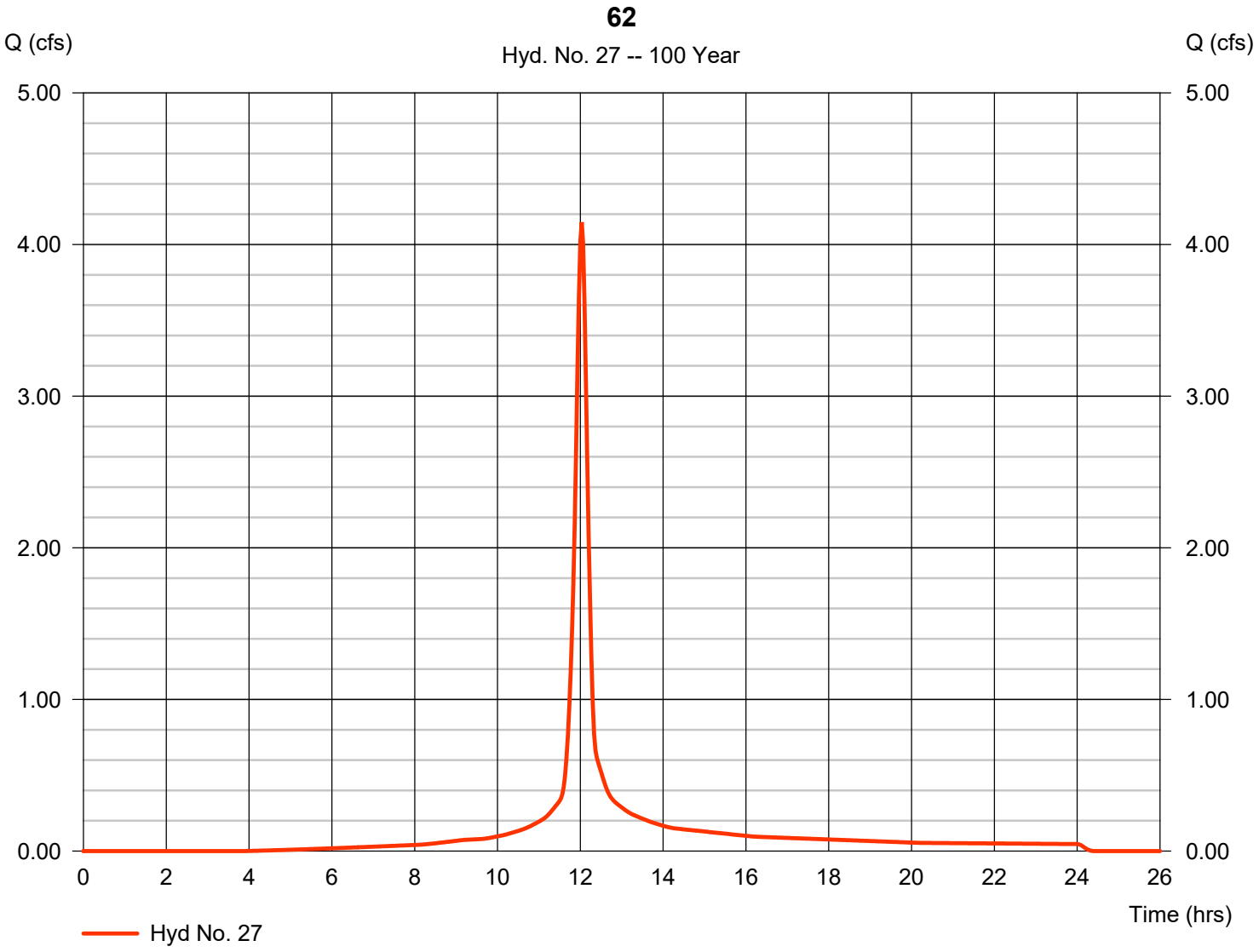


Hydrograph Report

Hyd. No. 27

62

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.147 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	12,093 cuft
Drainage area	=	0.560 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

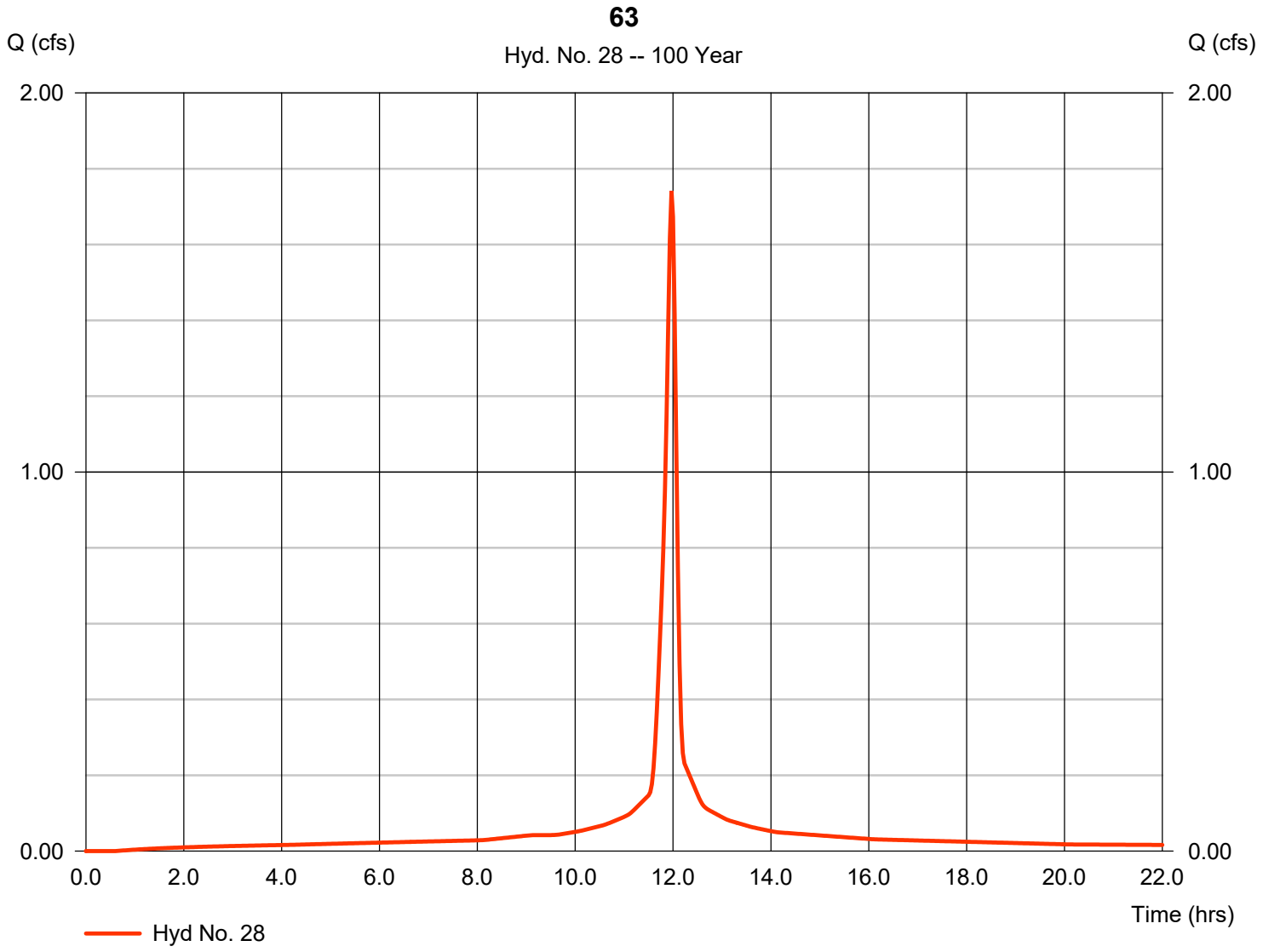


Hydrograph Report

Hyd. No. 28

63

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.741 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	4,702 cuft
Drainage area	=	0.170 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

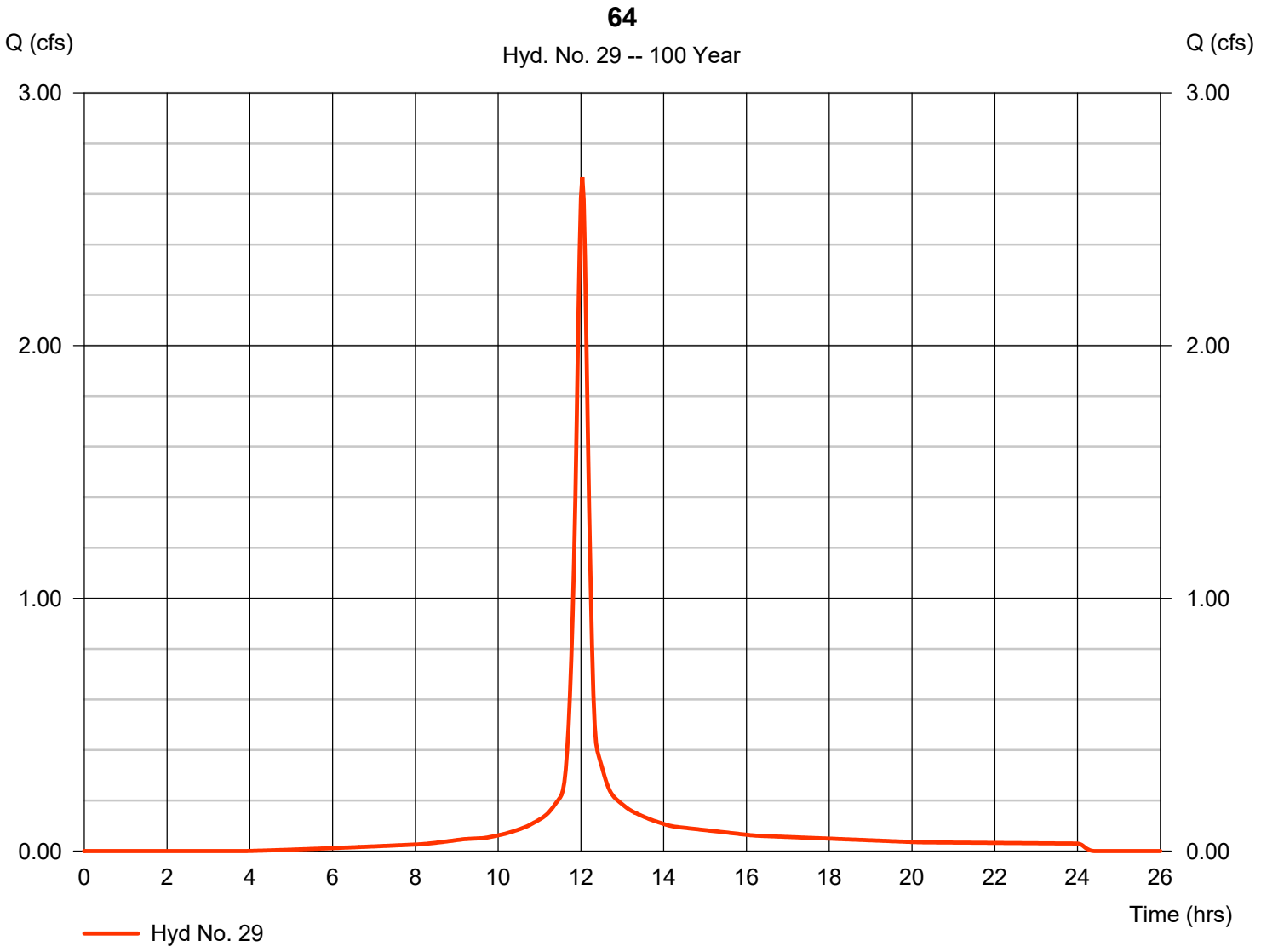


Hydrograph Report

Hyd. No. 29

64

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.666 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	7,774 cuft
Drainage area	=	0.360 ac	Curve number	=	85.2
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	15.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

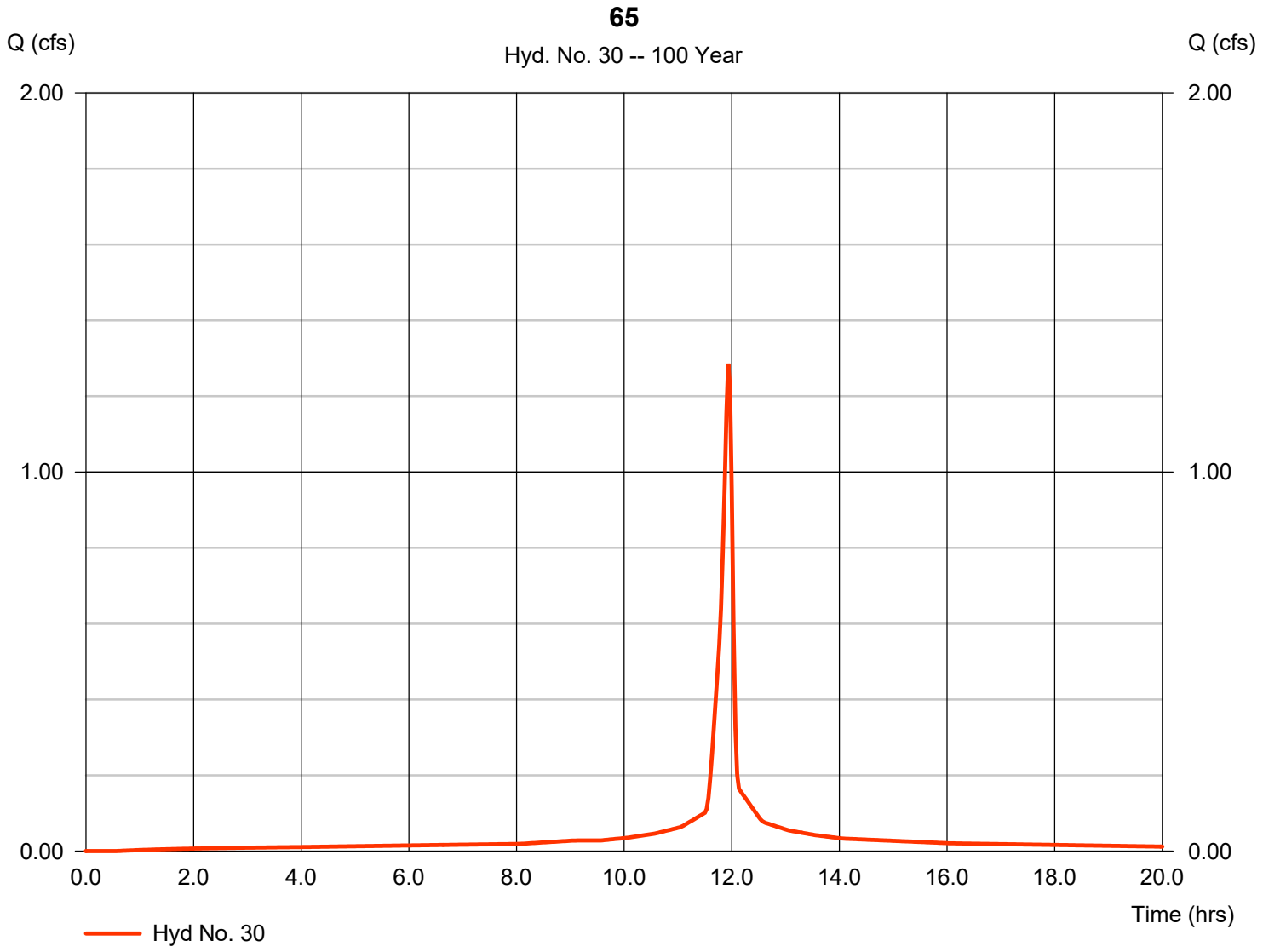


Hydrograph Report

Hyd. No. 30

65

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.286 cfs
Storm frequency	=	100 yrs	Time to peak	=	11.93 hrs
Time interval	=	2 min	Hyd. volume	=	3,112 cuft
Drainage area	=	0.120 ac	Curve number	=	98
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.86 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

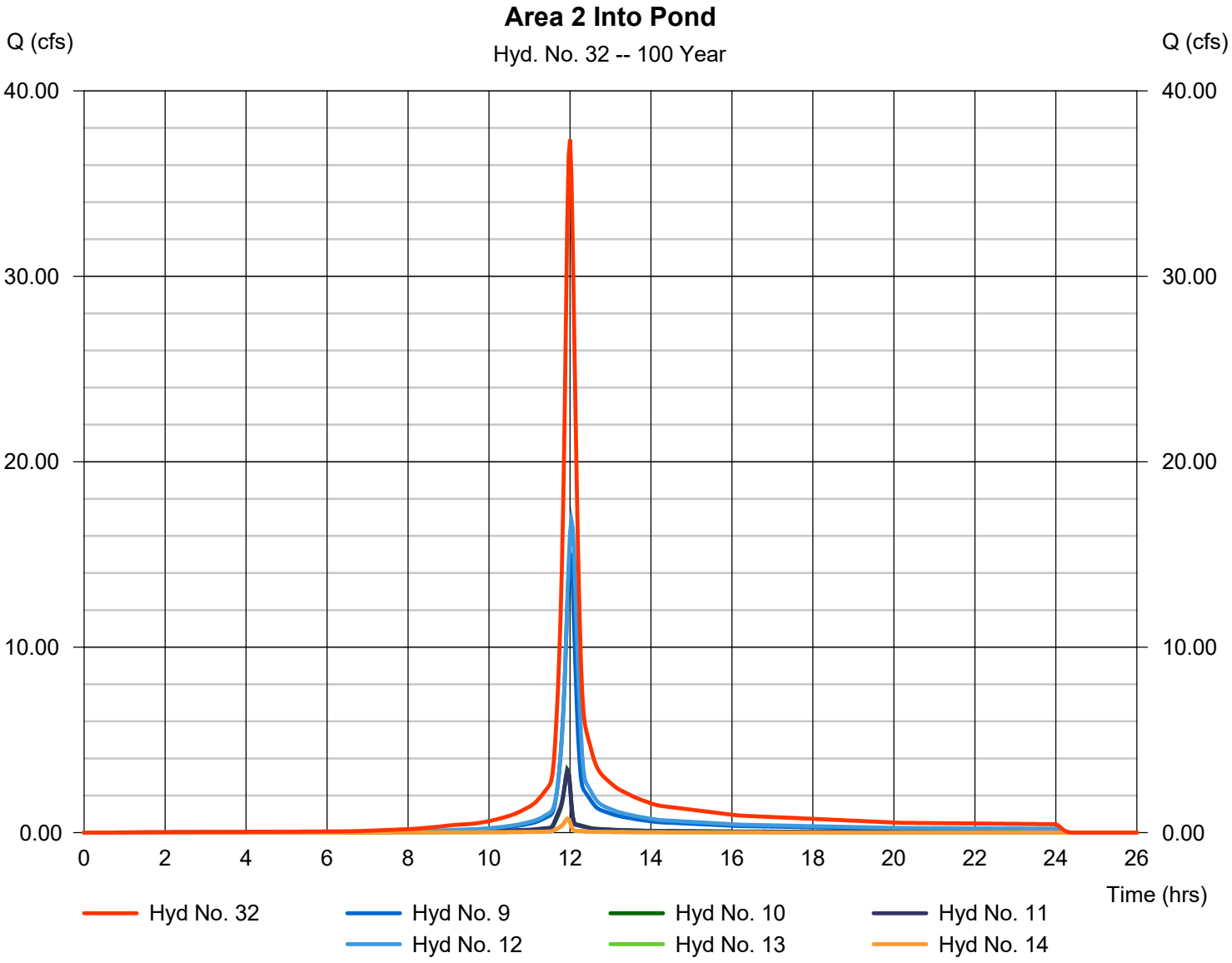


Hydrograph Report

Hyd. No. 32

Area 2 Into Pond

Hydrograph type	=	Combine	Peak discharge	=	37.37 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	105,445 cuft
Inflow hyds.	=	9, 10, 11, 12, 13, 14	Contrib. drain. area	=	5.770 ac

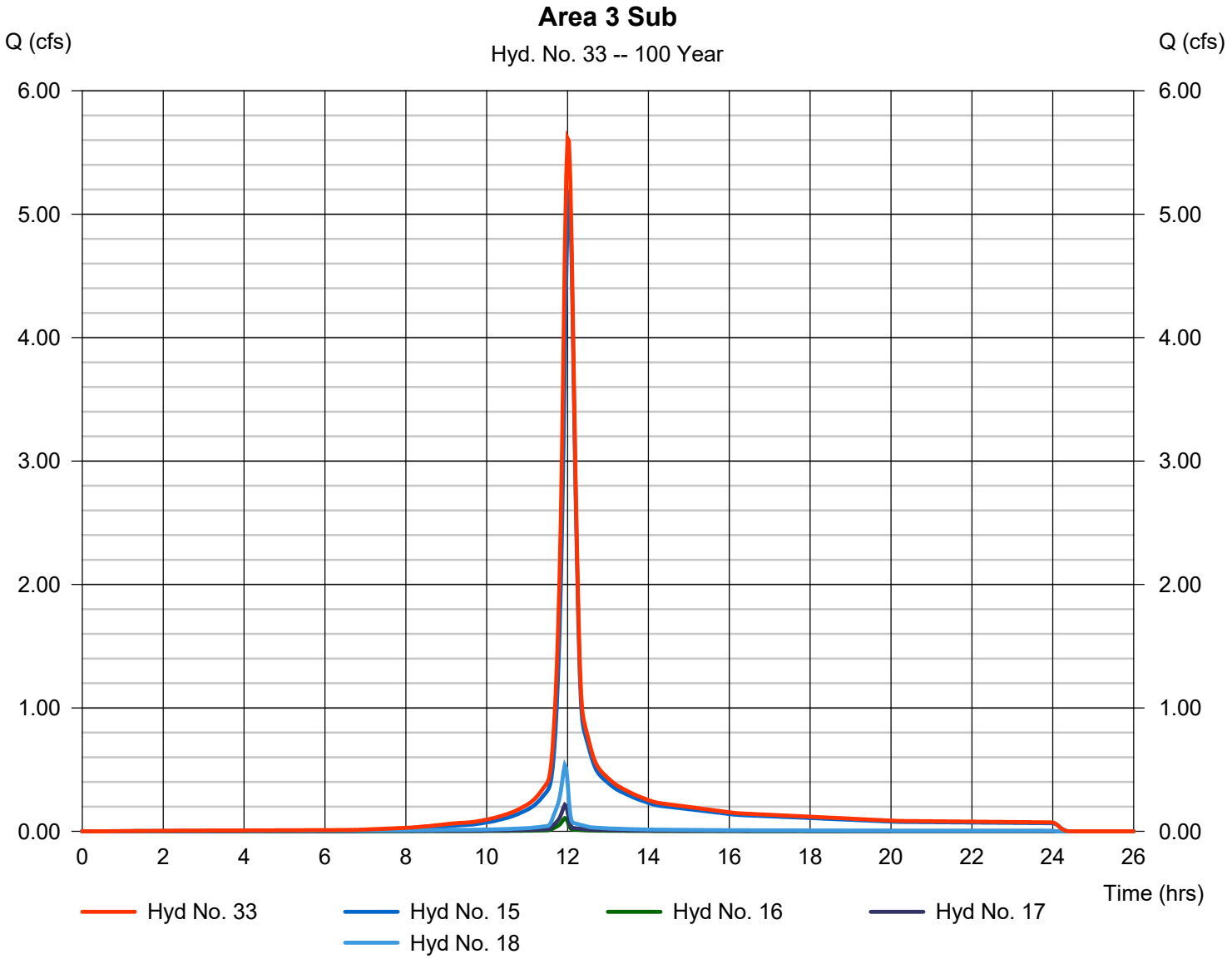


Hydrograph Report

Hyd. No. 33

Area 3 Sub

Hydrograph type	= Combine	Peak discharge	= 5.614 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 16,687 cuft
Inflow hyds.	= 15, 16, 17, 18	Contrib. drain. area	= 0.940 ac

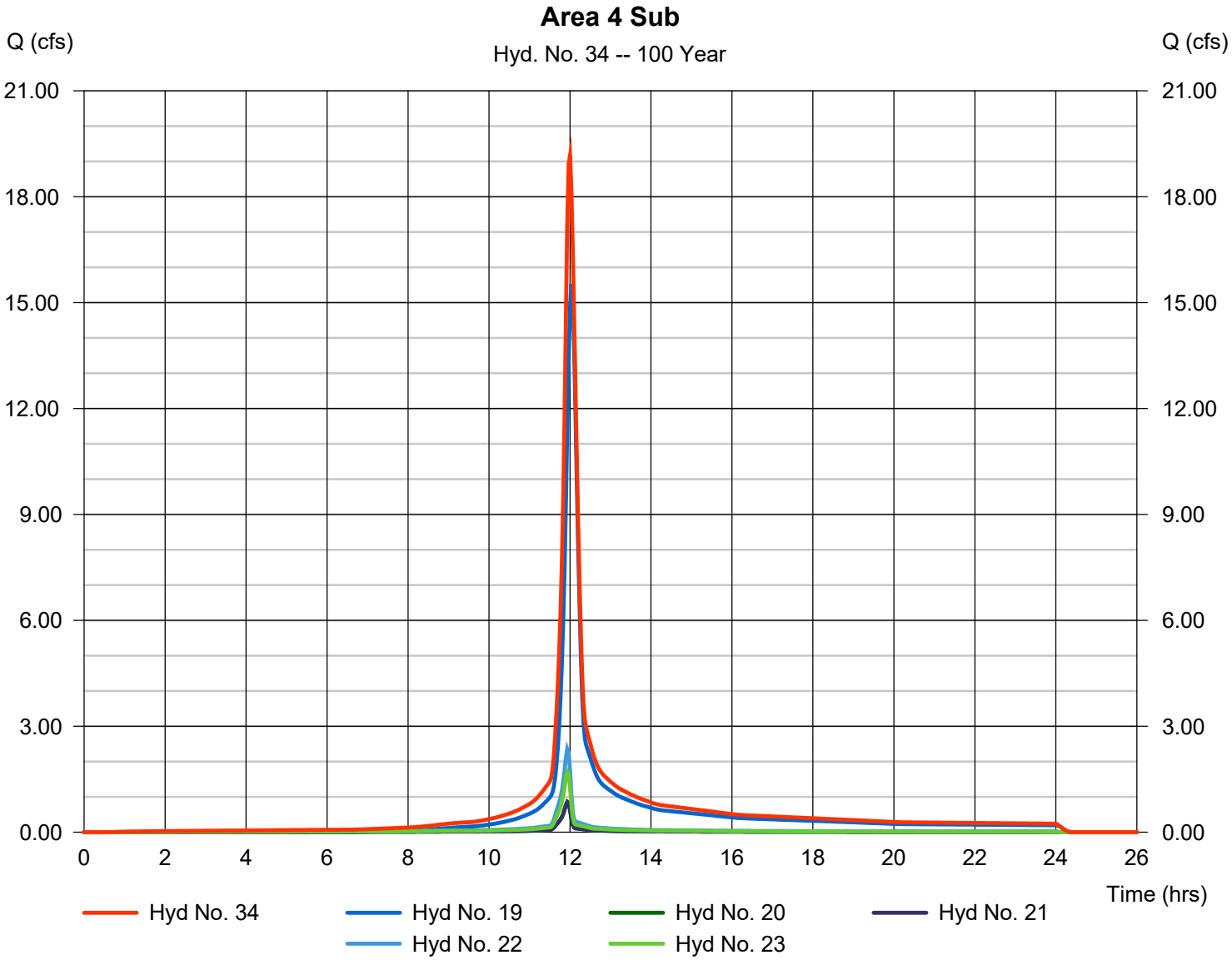


Hydrograph Report

Hyd. No. 34

Area 4 Sub

Hydrograph type	=	Combine	Peak discharge	=	19.17 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.00 hrs
Time interval	=	2 min	Hyd. volume	=	57,670 cuft
Inflow hyds.	=	19, 20, 21, 22, 23	Contrib. drain. area	=	3.110 ac

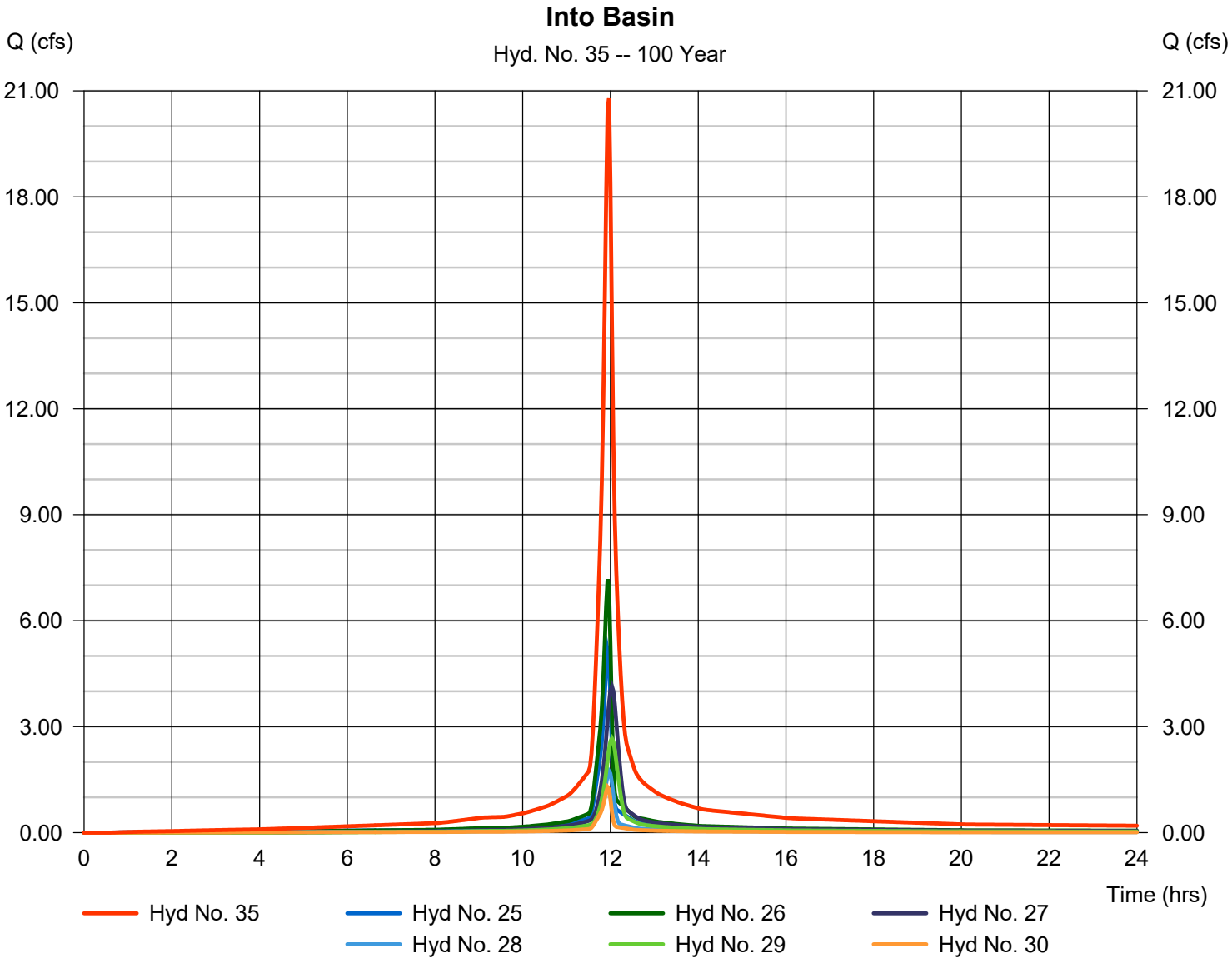


Hydrograph Report

Hyd. No. 35

Into Basin

Hydrograph type	= Combine	Peak discharge	= 20.79 cfs
Storm frequency	= 100 yrs	Time to peak	= 11.97 hrs
Time interval	= 2 min	Hyd. volume	= 56,372 cuft
Inflow hyds.	= 25, 26, 27, 28, 29, 30	Contrib. drain. area	= 2.380 ac



Hydrograph Report

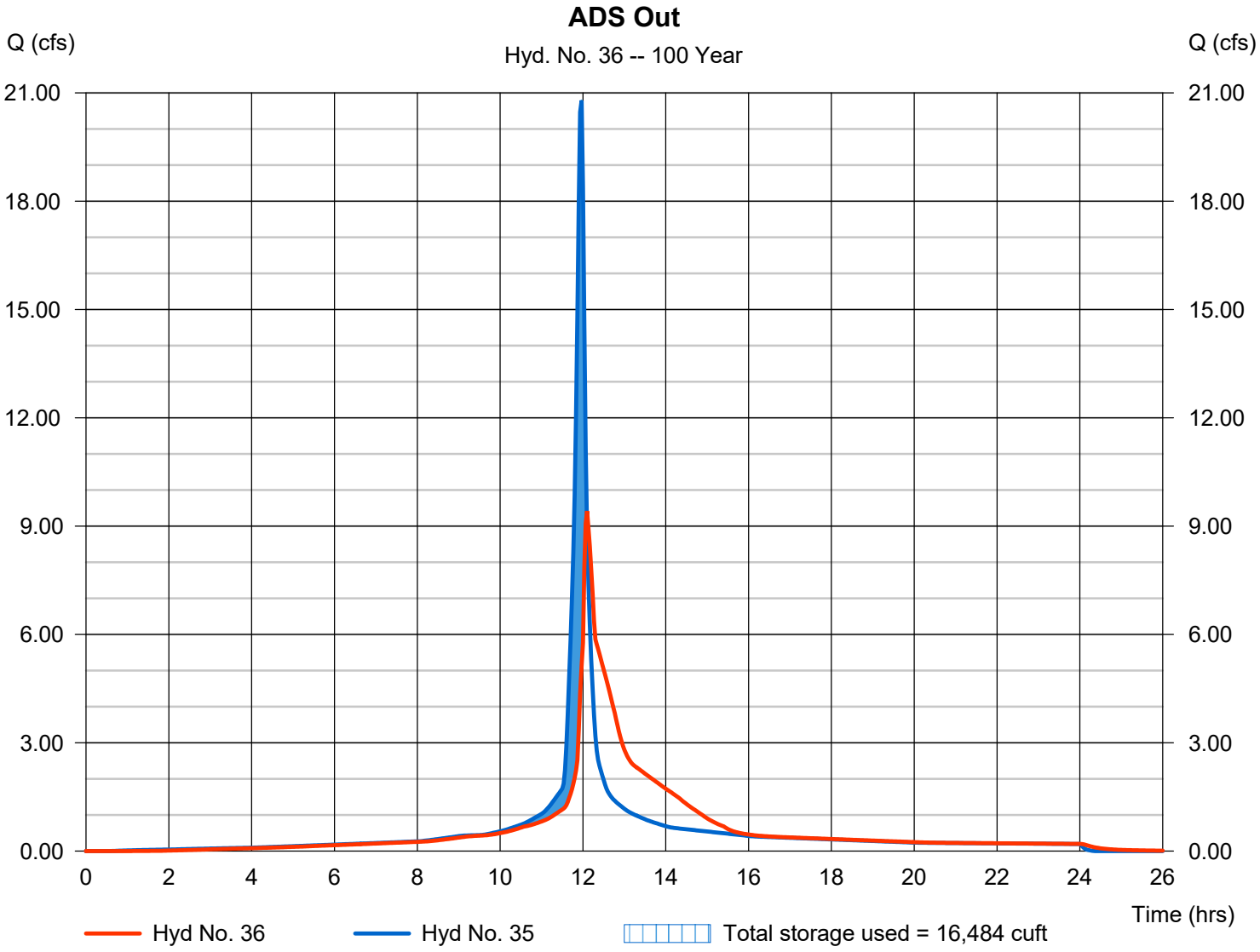
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 03 / 2 / 2023

Hyd. No. 36

ADS Out

Hydrograph type	=	Reservoir	Peak discharge	=	9.419 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.10 hrs
Time interval	=	2 min	Hyd. volume	=	56,362 cuft
Inflow hyd. No.	=	35 - Into Basin	Max. Elevation	=	1257.35 ft
Reservoir name	=	ADS	Max. Storage	=	16,484 cuft

Storage Indication method used.

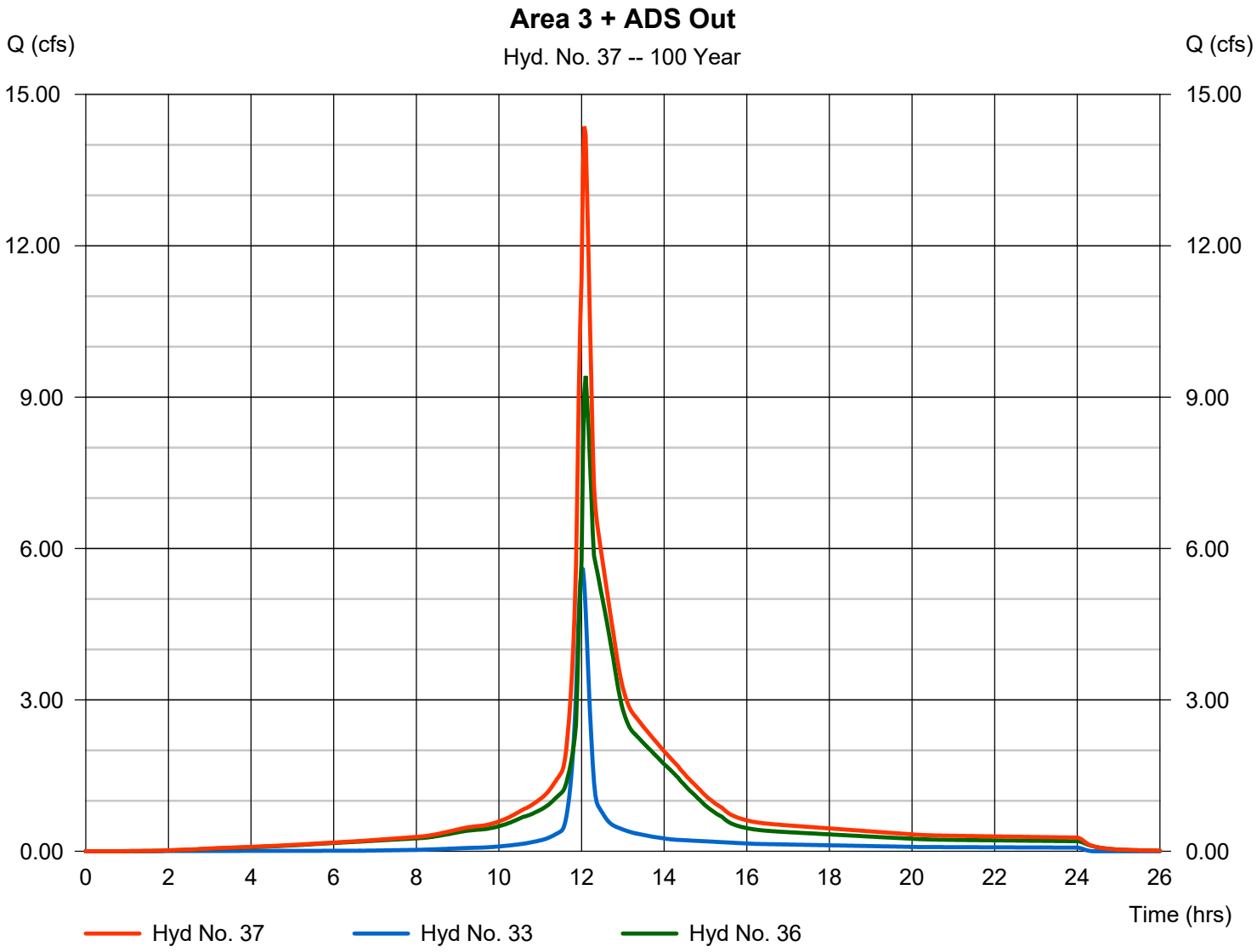


Hydrograph Report

Hyd. No. 37

Area 3 + ADS Out

Hydrograph type	=	Combine	Peak discharge	=	14.37 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.07 hrs
Time interval	=	2 min	Hyd. volume	=	73,048 cuft
Inflow hyds.	=	33, 36	Contrib. drain. area	=	0.000 ac

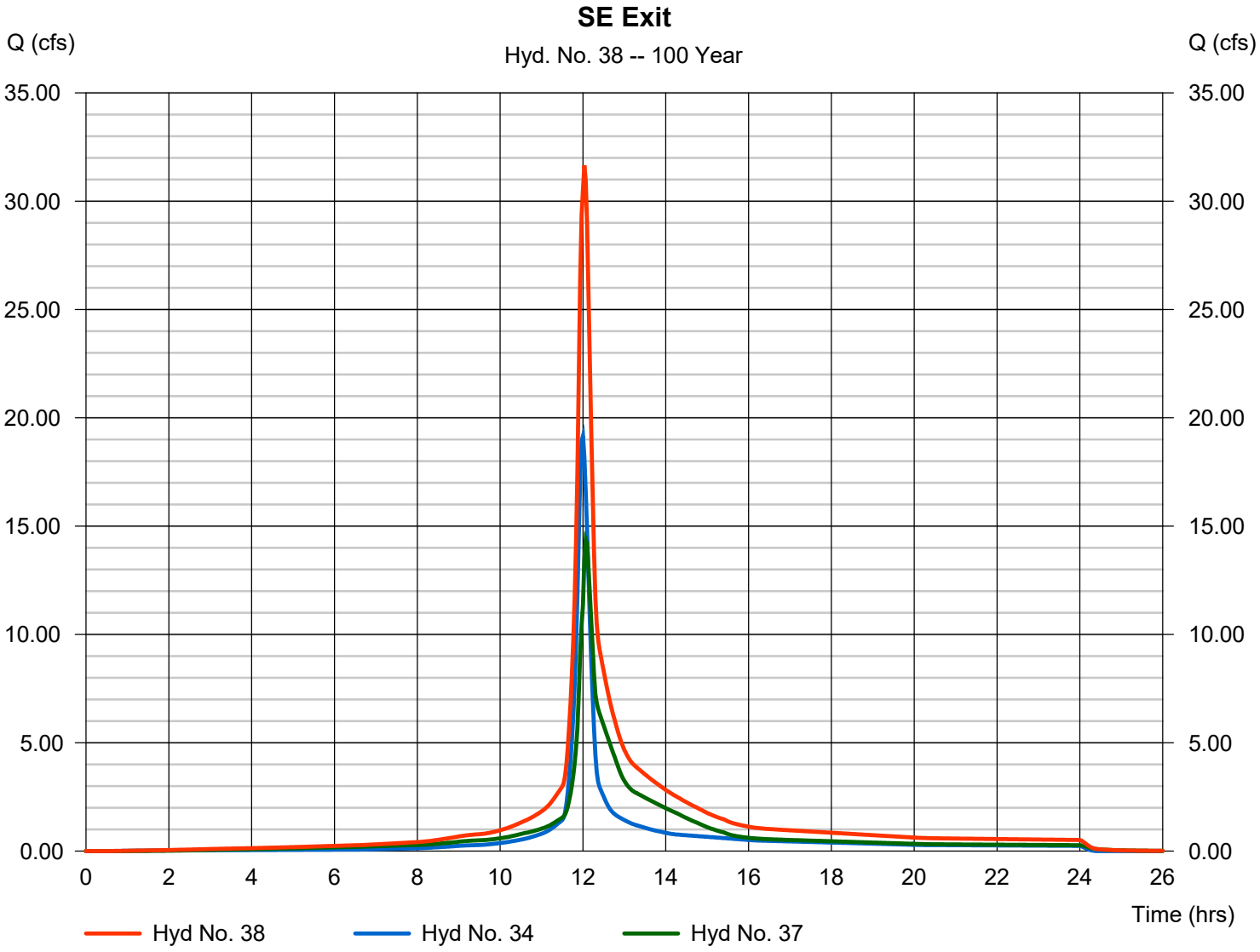


Hydrograph Report

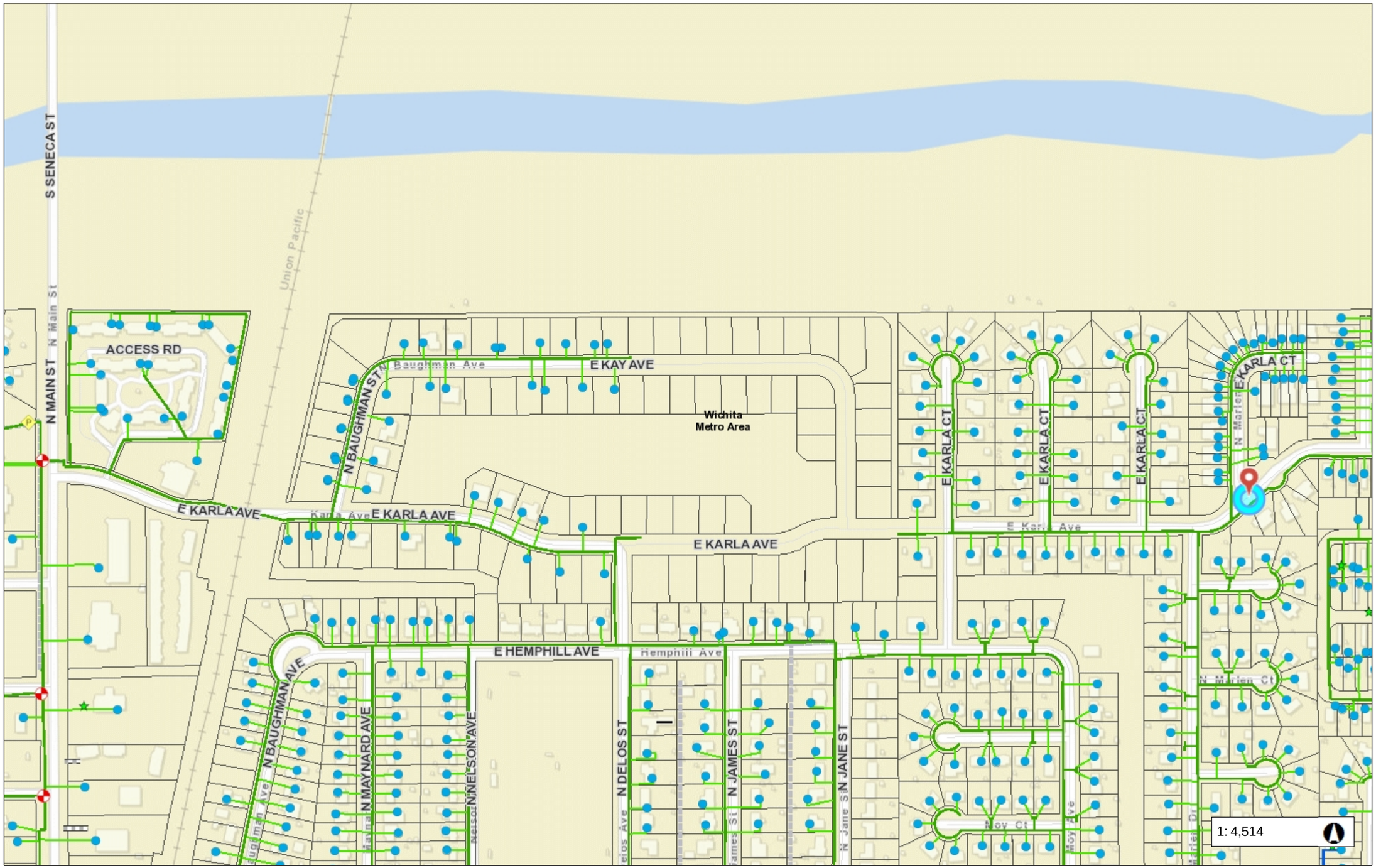
Hyd. No. 38

SE Exit

Hydrograph type	=	Combine	Peak discharge	=	31.65 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.03 hrs
Time interval	=	2 min	Hyd. volume	=	130,718 cuft
Inflow hyds.	=	34, 37	Contrib. drain. area	=	0.000 ac



River Forest 3rd Addition-Haysville



752.3 0 376.17 752.3 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere

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DISCLAIMER: This document and information herein is a visual representation and approximation of ONE Gas facilities and is subject to revision at any time without notice. It is an informational tool and is not guaranteed, warranted, or represented to be to scale, complete, accurate, or depicting depth. ONE Gas disclaims any and all liability for same. Call 811 by dialing 811 prior to and excavation.

Notes

Legend

- OGS Facilities
- Designer Drip
- Designer Test Point
- Designer Anode
- Designer Rectifier
- Designer Bond Junction
- Designer Ground Bed
- Designer Cable
  - Bond Wire
  - Rectifier Cable
- Designer Rural Tap
- Designer Gas Pipe Casing
  - Casing
  - Insertion
- Designer Meter Setting
- Designer Non-Controllable Fitting
  - Coupling
  - Ell
  - End Cap
  - Expansion Joint
  - Flange
  - Reducer
  - Reinforcing Sleeve
  - Screw
  - Tee
  - Transition
  - Purge Point
  - Threaded O-ring
  - Unknown
- Designer Gas Valve
- Designer Location Notes
- Designer Controllable Fitting
  - Short Stop
  - Three-Way Tee
- Designer Regulator Station
- Designer Town Border Station
- Designer Utility Easement
- Designer Abandon Service Line
  - to be Removed (Contains Gas)
  - to be Abandoned (Contains Gas)
  - Removed (No Longer Contains Gas
  - Abandoned (No Longer Contains G
- Designer Service Line
  - Status Not Available
  - New Design - Status Pending
  - Proposed
  - Approved
  - Under Construction
  - Operating
- Designer Abandon Mains
  - to be Removed (Contains Gas)
  - to be Abandoned (Contains Gas)
  - Removed (No Longer Contains Gas
  - Abandoned (No Longer Contains G
- Designer Mains
  - Status Not Available
  - New Design - Status Pending
  - Proposed
  - Approved
  - Under Construction
  - Operating
- Designer Work Order Polygon
  - Status Not Available
  - New Design - Status Pending
  - Proposed
  - Approved
  - Under Construction
  - Operating
- Service Point
- E Valves
- Coupling
- Gas Valve- Emergency
  - Emergency Valve
  - Non-Emergency Valve
- Regulator Station
- Town Border Station
- Rural Tap
- Locate Station

Jonathan Tardiff
City of Haysville
200 W. Grand Ave
PO Box 404
Haysville KS 67060

March 3, 2023

RE: review of plat -River Forest 3rd Add -Preliminary plat

Dear Mr. Tardiff

Evergy has reviewed this preliminary plat and will not need to request additional easements at this time. Jeremy Lane, Design Representative, will be the contact for this plat and the project associated with it. He can be contacted at (785) 508-270.**Any relocation or removal of existing equipment due to this plat will be at the applicant's expense.**

Thank you for sending for Evergy's review

Sincerely,
Rondee Sutton
Sr. Administrative Assistant.

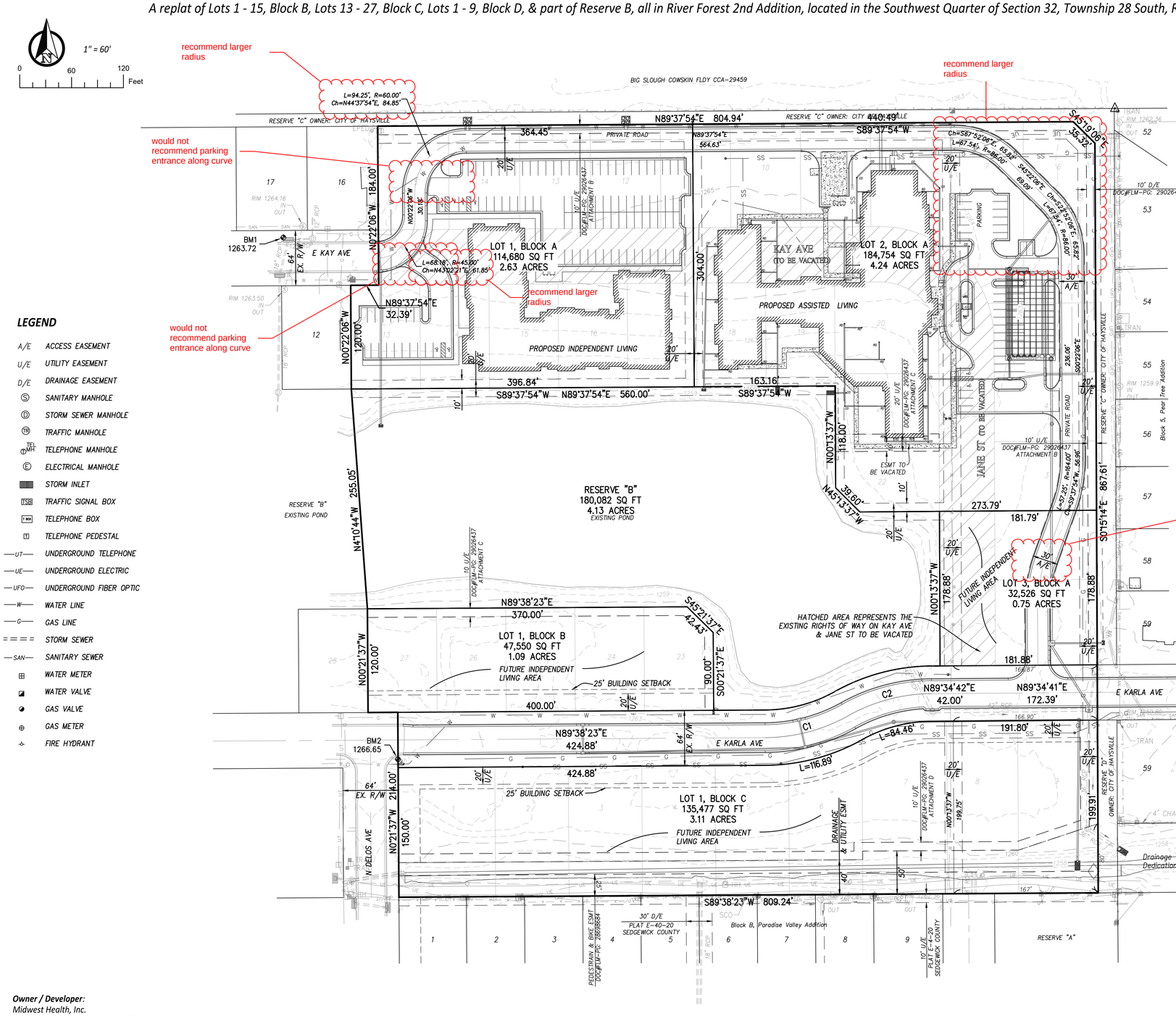
CC: CFS Engineers
Jeremy Lane, Evergy

Internal Use Only

PRELIMINARY PLAT

RIVER FOREST 3RD ADDITION

A replat of Lots 1 - 15, Block B, Lots 13 - 27, Block C, Lots 1 - 9, Block D, & part of Reserve B, all in River Forest 2nd Addition, located in the Southwest Quarter of Section 32, Township 28 South, Range 1 East of the 6th P.M., City of Haysville, Sedgwick County, Kansas.



LEGEND

- A/E ACCESS EASEMENT
- U/E UTILITY EASEMENT
- D/E DRAINAGE EASEMENT
- (S) SANITARY MANHOLE
- (D) STORM SEWER MANHOLE
- (TR) TRAFFIC MANHOLE
- TEL MH TELEPHONE MANHOLE
- (E) ELECTRICAL MANHOLE
- STORM INLET
- TSB TRAFFIC SIGNAL BOX
- TBX TELEPHONE BOX
- T TELEPHONE PEDESTAL
- —UT— UNDERGROUND TELEPHONE
- —UE— UNDERGROUND ELECTRIC
- —UFO— UNDERGROUND FIBER OPTIC
- —W— WATER LINE
- —G— GAS LINE
- = = = = STORM SEWER
- —SAN— SANITARY SEWER
- WATER METER
- WATER VALVE
- GAS VALVE
- GAS METER
- FIRE HYDRANT

BM 1 *EL:1263.72*
NE corner inlet North side Kay Ave (454 E Kay Ave)

BM 2 *EL:1266.65*
X cut on the South bolt of the fire hydrant @ the SE quadrant of the intersection of Karla Ave & Delos St

BM 3 *EL:1259.34*
SE corner inlet on the East side of Karla Ct (801 E Karla Ave)

Date of topographic survey: 06-02-22

Existing use of property: Vacant Lots / Residential

Existing zoning of subject property: Single Family 20,000 (SF-20)

Existing zoning of adjacent properties: Single Family 20,000 (SF-20)

Proposed use of property: Assisted Living

Notes:

1) *A drainage plan has been developed for the subdivision & will be submitted with the Final Plat. All drainage easements, rights of way, or reserves shall remain at the established grades or as modified with the approval of the applicable City or County Engineer & unobstructed to allow for the conveyance of storm water.*

Owner / Developer:
Midwest Health, Inc.
3024 SW Wanamaker Rd, Suite 300
Topeka, KS 66614

Engineer / Surveyor:
CFS Engineers
2930 SW Woodside Dr
Topeka, KS 66614

CFS ENGINEERS
2930 SW Woodside Dr, Topeka, KS 66614
o: 785-272-4706 f: 785-272-4736

G:\Shared drives\225418\CAD\Platting Zoning and Legal Survey\225418 prelim.dwg

New section of road - Kay to Karla

Susie Sutton <ssutton@wichitabodyandequipment.com>

Tue 9/20/2022 10:03 AM

To: Jonathan Tardiff <jtardiff@haysville-ks.com>

1 attachments (115 KB)

Leter from Ryan Lavers.pdf;

Hello Mr. Tardiff,
I spoke about my concerns about traffic once the new section of road is built connecting Kay to Karla at the last Planning Commission meeting. The speed and driving of many vehicles is already a problem on Karla in the River Forest addition and on Kay in the mobile home park. It is very easy to surmise that if there is a section of road adding Kay to Karla without anything causing the traffic flow to slow down, this problem will only get worse. While I've seen problems in both areas as I live in River Forest and drive or walk through the mobile home park almost daily since I work on Broadway, a coworker has mostly experienced issues in the mobile home park where he lives. He has seen some issues with speeding in the River Forest area as well the few times he has gone fishing with a friend that lives in the area. He asked me to forward a letter he wrote sharing his concerns about the traffic which is attached.

If you have any questions, please let me know.

With great appreciation,
Susie Sutton
ssutton@wbeks.com
Wichita Body and Equipment, LLC
d/b/a Continental Truck Accessories
6701 S Broadway
Haysville, KS 67060
ph: 316-522-1080

Please use ap@wbeks.com for all Accounts Payable related email for Continental Truck Accessories and Wichita Body and Equipment LLC.

Re: Routing of Karla Avenue expansion

Susie Sutton <susie@thesuttonsrock.com>
Tue 9/27/2022 7:50 AM
To: Jonathan Tardiff <jtardiff@haysville-ks.com>

Good morning Jonathan,
I recently learned of a possible solution for the concern of traffic speed once Kay is continued thru River Forest to meet up with Karla. While I understand speed bumps are not allowed or illegal on thru streets, speed tables can be used and requires reduction of speed 5-10 mph. Several have been installed in downtown Wichita and they do slow traffic. I found online costs are estimated from $5,000 - $10,000; I'm sure the range has to do with whether they are added to the road after the fact or built in as part of the original road, and I've also found rubber speed tables can be purchased for under $3,000, Perhaps installing one around the point where the road curves north on the new section would be a good spot, especially if there were four way stop signs installed at Kay and Karla Court (where Kay dead ends now). I use this intersection 4 times every day, and have a manual transmission car so no one will dislike this more than I, but I think it would make the most sense for safe traffic flow. Another great placement for a speed table would be the intersection of Karla and Baughman.

Thank you for your consideration. Unfortunately do to scheduling issues I was unable to attend the last planning session and will miss the next one as well.

With great appreciation,
Susie Sutton

On Mon, Aug 29, 2022 at 10:30 AM Jonathan Tardiff <jtardiff@haysville-ks.com> wrote:

> Hello,
>
> You are always welcome to speak under off agenda or asked to be placed on the agenda.
>
> Jonathan Tardiff
> **Planning and Zoning Administrator**
> **City of Haysville**
> **Phone: 316.529.5900**
>
> 
>
>
> Great things are happening in Haysville!
>
> ---
>
> **From:** Susie Sutton <susie@thesuttonsrock.com>
> **Sent:** Monday, August 22, 2022 6:59 PM
> **To:** Jonathan Tardiff <jtardiff@haysville-ks.com>
> **Subject:** Re: Routing of Karla Avenue expansion
>
> Hello Jonathan,
> You mentioned waiting until later this year to bring up my concerns, such as when the replatting is on the agenda. I am apprehensive in waiting until such time to bring up my concerns because I am afraid that at the time the replatting is on the agenda the plans for the new road will have already been planned out and there would be a large cost associated with making changes at that point. However, I also want to address the topic

at an appropriate time when the committee is in the frame of mind to discuss this. Can you suggest an ideal time frame or meeting I should plan on presenting my concerns?

Also, if other citizens have similar concerns, but are unable to attend a planning meeting, to whom and what method would you suggest they use to convey their message?

With great appreciation,
Susie Sutton

On Thu, Aug 11, 2022 at 9:26 AM Jonathan Tardiff <jtardiff@haysville-ks.com> wrote:

> Hello,
> While it is not on the agenda you are allowed to speak under off agenda.
> The replatting of that area will be coming to planning on the agenda later this year if you would like to wait until then.
>
> Jonathan Tardiff
> **Planning and Zoning Administrator**
> **City of Haysville**
> **Phone: 316.529.5900**
>
> 
>
> Great things are happening in Haysville!
>
> ---
>
> **From:** Susie Sutton <susie@thesuttonsrock.com>
> **Sent:** Thursday, August 11, 2022 6:44 AM
> **To:** Jonathan Tardiff <jtardiff@haysville-ks.com>
> **Subject:** Routing of Karla Avenue expansion
>
> Hello,
> I plan to ask to speak at tonight's, August 11th's, Planning Commision meeting regarding the expansion or building of Karla Avenue in the River Forest area in preparation for the Assisted Living Facility.
>
> At a previous meeting when the Planning and Commission Board approved the ALF, I mentioned my concern about increased traffic and the speed of traffic once this section of Karla is completed and this will basically be a thoroughfare from Broadway to Seneca. I have a couple of ideas that would change the route of the road as originally planned that could possibly slow traffic. If I am going to be allowed to speak would someone be able to display a map of the area? I have tried a few different methods and cannot get my computer to cooperate allowing me to attach drawings of these ideas.
>
> Thank you for your time and consideration,
> Susie Sutton

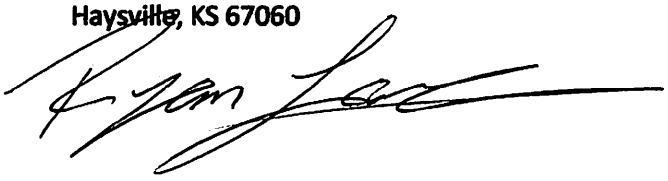
City of Haysville
Planning Commission
200 W Grand Ave
Haysville, KS 67060

To Mr. Aziere and Commissioners,
I would ask for your consideration of traffic patterns and public safety as the development and road construction is completed in the River Forest addition to accommodate the new assisted living facility. The traffic on Kay through Park Avenue Estates is often already dangerous as many do not adhere to the 20 mph speed limit and some drive fast, including passing slow traffic, since it's one of the few roads to Broadway. I've also witnessed similar traffic on Karla when fishing in River Forest addition with friends in that area; and they have told me that it's just the normal traffic pattern for Karla. I am very concerned that if Kay is put straight through and connected to Karla as we've been told and shown on the maps, it is common sense that this would only get worse. We have to understand other than Grand, this is the only other way drivers can get from Broadway to Seneca, in town; which is why these roads are at a higher risk. Please ensure that the new section of roadway will do something to slow traffic and not provide a faster cut through.

I appreciate your consideration and time dedicated to our city.

Sincerely,

Ryan Lavers
1400 E Kay, #140
Haysville, KS 67060



HAYSVILLE BICYCLE & PEDESTRIAN MASTER PLAN

20232

City of Haysville
200 W. Grand Ave.
Haysville, KS 67060

(316) 529-5900
www.Haysville-ks.com

KAW VALLEY ENGINEERING

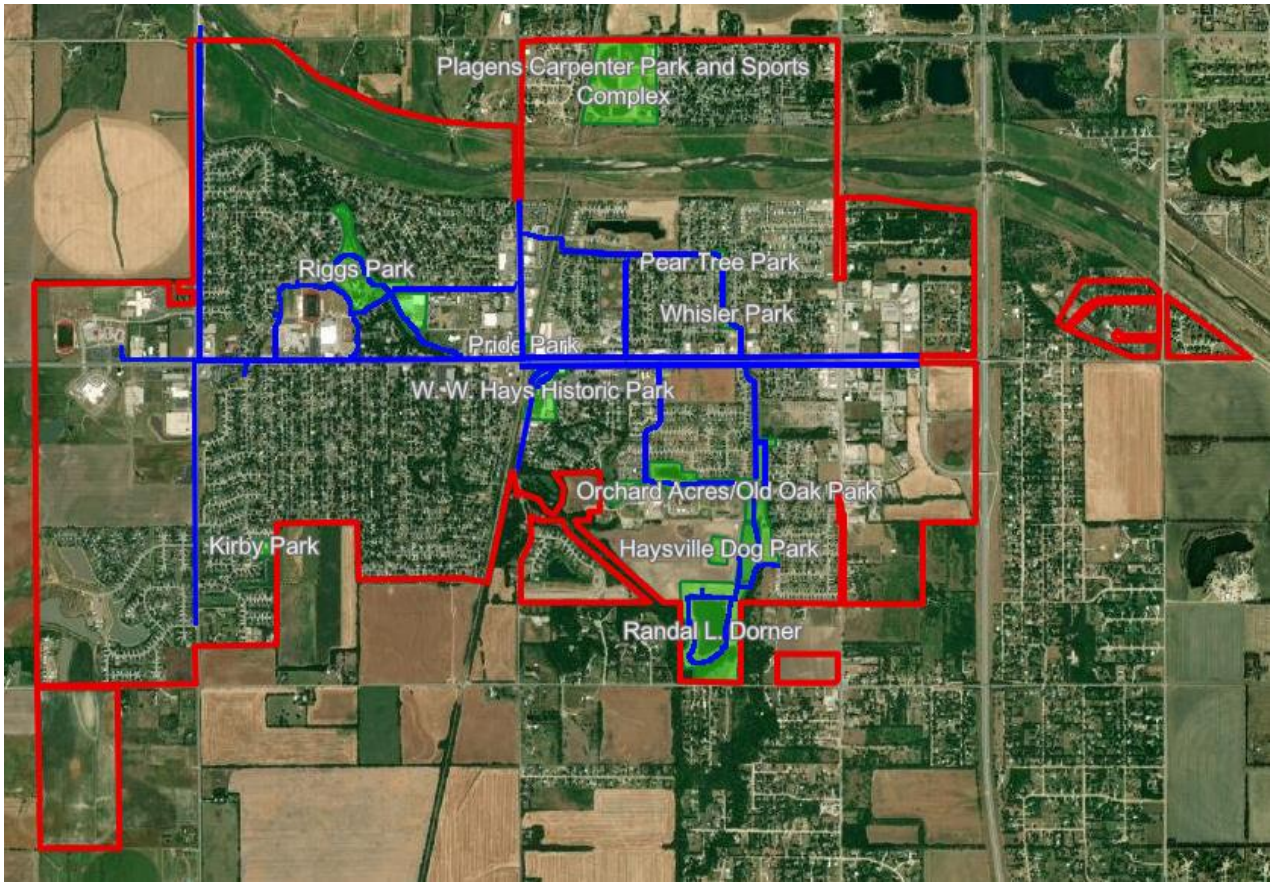
SWT DESIGN

GC GROUNDSWELL CONSULTING

Table of Contents

MISSION

The mission of the City of Haysville is to continue developing safe access to the multimodal transportation facilities and programs throughout the community; increase community wellness; reduce the carbon footprint; expand education, increase community outreach, raise awareness, and serve as a guide for ambassadors within the community; and serve as a forum of information, resources, and agencies for the community to utilize and better serve the multimodal citizens of Haysville. A robust study was conducted in the development of this plan from 2017-2018.



LEGEND

Existing Path

BICYCLE/PEDESTRIAN COUNTS

Current counts are provided by the Wichita Area Metropolitan Planning Organization (WAMPO) and are recorded annually. This serves as an excellent method to record data on a regional level. However, to improve the quality of data for the Haysville community, the city should record data by utilizing the city's street counters in combination with volunteer manual counts. This will establish a baseline of both quality and quantity. To ensure effective results, staff will determine count locations and dates to be monitored on an annual basis. The data will aid in resource allocation and provide valuable insight on how the bicycle and pedestrian network is utilized.

SURVEY

Develop and issue surveys annually to record data from the public. Survey results will assist the city with future planning of the bicycle and pedestrian pathways as well as provide current feedback on the existing system.

CONNECTIVITY

Project Development: Continue to design bicycle and pedestrian facilities that connect all parts of the community.

Project Ranking: After a collaborative effort developing a project list, staff will recommend the projects in order of importance. The rankings will serve as a guide for the Governing Body when determining the importance of a project to the community.

AMENITIES

Bicycle Parking: Bicycle racks should continue to be provided in various locations throughout the city.

> Existing Parking: City Hall, Police Station, Vickers/Fountain, Volleyball Court, Riggs Park main shelter, Library, Senior Center, HAC, Municipal Pool, Campus High School, Haysville Middle School, Rex Elementary, and Nelson Elementary.
>
> Future Parking: Splash Pad, Historic, Old Oak Park, Dorner Park, Plagens-Carpenter Park, Rex Practice Fields.

Repair Station: Bicycle repair stations with a stand allow cyclists to make minor repairs to their bicycles using a free air pump and tools that are connected to heavy duty cables.

> Existing Stations: HAC, Public Works, Dorner Park
> Future Stations~~Parking~~: ~~Dorner Park,~~ Vickers building

SAFETY AND EDUCATION

Haysville's goal of increasing safety, education, and awareness can be accomplished through the judicious use of multimedia resources. Outlets such as Channel 7 and social media, in conjunction with school-based education programs will ensure a broad audience is reached.

- Monitor school programs
- Utilize city media
- GIS mapping

EVALUATION

Haysville has been gathering data for several years through a series of bicycle and pedestrian path counts and surveys. As we move forward this data will continue to play a vital role in the implementation of future projects.

- Continue bicycle and pedestrian counts
- Keep record of all improvements
- Perform annual survey(s)
- Compare new data to baseline

DEFINITIONS

Greenway Trail - A greenway trail is a place where residents can walk or bike for recreational purposes with limited interactions with cars. These are situated in areas with natural features and serve to connect regional destinations, like parks. The greenway trail will typically be a 10' concrete trail with trailside amenities but may include other elements or materials. These amenities may include:

- Seating areas at approximately every 800' interval
- A trailhead at each end of a major segment, which may include parking, drinking fountains, littler receptacles, and bike racks.
- Scenic overlooks and pavilions at points of interest.

Multi-Modal Path - 10' wide concrete path adhering to all city standards to match existing multi-modal paths. Paths shall meet all ADA standards for access and include marked crossings and pedestrian activated signals where applicable.

- Standard Pedestrian Sidewalk
- 6' wide concrete path adhering to all city standards. Paths shall meet all ADA standards for access and include marked crossings and pedestrian activated signals where applicable.

COMMUNITY ENGAGEMENT

Community engagement is a necessary companion to technical analysis in bicycle and pedestrian planning. While technical analysis is the appropriate means of determining availability and condition of facilities, as well as propensity for potential use, it is feedback from the community engagement that identifies the community's interest in bicycle and pedestrian investment, willingness to pay for those investments and the prioritization of goals and/or specific projects.

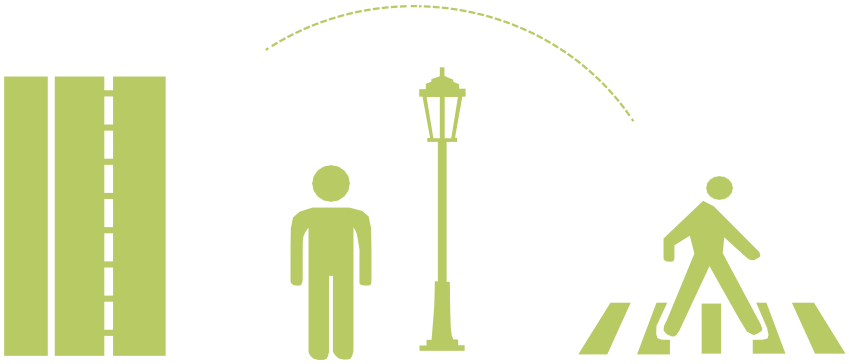
COMMUNITY FEEDBACK

When asked what the most important themes were to be considered for this plan, the community voted "more sidewalks, lighting, and crosswalks" as their top three with nearly 80 percent of the votes.

48% More Sidewalks

20% More Lighting

11% More Crosswalks



Other common themes:

Connectivity 6%
Connect to New Park 3%
Safety 3%
Obey Bike Laws 2%
Enforce Laws 2%

More Bike Facilities 1%
School Zones 1%
Floodway Crossing 2%
Accessibility 1%

COMMUNITY FEEDBACK

Demographics: Our team determined key demographic data about who uses existing facilities and their potential use:

Are you a resident of Haysville?
67% Yes **43% No**

Do you walk or bike in home as an exercise routine?
23% Yes **157% No**

Do you currently walk or ride a bike as part of your commute?
38% Yes **22% No**

Would you consider walking or biking if better facilities were provided?
80% Yes **26% No**

COMMUNITY CONNECTIVITY - GAP ANALYSIS

Gap analysis was performed by overlaying the existing sidewalks, bicycle and pedestrian infrastructure and off-street greenways in Haysville with our conceptual routes for proposed improvements. The difference between the existing and proposed illustrated a number of gaps in the existing infrastructure. Several of these gaps represented links to residential areas on the perimeter of the City.

A few notable gaps identified:

1. East Meridian Ave. [71 St. to Chelsea St.] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

2. Ward's 4th [Main St/Seneca to 63rd to Mabel] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

3. South Main St. [Past Spencer Dr. to W. 79th St. S.] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

4. Broadway/US 81 [W. 63rd St. S. to W. 79th St. S.] - It should be noted that US 81 is managed by KDOT and falls outside of the jurisdiction of the City of Haysville. - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

5. East 63rd St. [Mabel to Broadway] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

6. South Meridian Ave. [Saddlebrook St. to W. 79th St. S.] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

7. W. 79th St. S. [S. Meridian St. to Cattail St.] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

8. East Grand Ave [I35 to Suncrest Addition] - Complete lack of bicycle and pedestrian infrastructure on both sides of road.

COMMUNITY ACTIVITY- RECREATION & GREENWAYS

Recreation destinations were identified during the community feedback process and it is important to address not only connections to existing parks but also expanding recreation opportunities in Haysville through the expansion of the greenway trail network. The existing greenway network in Haysville does a good job of connecting parks and neighborhoods within isolated regions of the community. However, existing trails do not interconnect nor create loops favored for recreation. Analysis suggests the need for infill to connect existing parks and trails as well as the exploration of trails that embrace the floodway and create a loop trail opportunity on the north end of town. The floodway is the largest undisturbed piece of land in the community and has potential to be embraced for recreational purposes.

LEGEND

Existing Greenways | 1/4 Mile Buffer (1/2 mile across) | 1/2 Mile Buffer (1 mile across)

EDUCATION & ENFORCEMENT

EDUCATION

Public education is essential to reduce pedestrian crashes. It also builds public support for programs, projects and policies to reduce pedestrian crashes. To be effective, it should target those behaviors within selected age groups that could result in fewer pedestrian crashes. Collaboration with local law enforcement is an essential element of an enforcement program to reduce pedestrian and bicycle crashes. To be effective, it should be done in partnership with schools and other community leaders.

The City of Haysville Police Department should continue:

- To enforce proper crosswalk use the first week of school.
- Proactively update the informational bicycle and pedestrian map with safety guidelines on flyers and social media.
- Review numbers and types of signs in areas that are prone to pedestrian traffic.
- Increase outreach to seniors.
- Promote bicycle and pedestrian programs during bicycle month and create a culture of awareness.
- Partner with *Safe Kids* to continue educating school children utilizing their *Bike to School* and *Walk to School* programs and encourage classroom projects focusing on safety while walking and bicycling.

PARTNERSHIPS

Partnerships with nonprofit groups, the private sector, and other local governmental agencies are an excellent way to get the community at large involved in safety education projects and programs. This includes schools, neighborhood groups, advocacy organizations, local businesses, local health departments, hospitals, and public safety officials such as firefighters and other first responders.

The City of Haysville should continue to cultivate relationships with the school district and other municipalities, businesses, USD 261 School Board, Park Board, Senior Advisory Board, and the Recreation Department.

ENFORCEMENT

Enforcement is an essential element of an overall program to reduce pedestrian crashes. To be effective, it should be done in partnership with the community and law enforcement agencies. Monitoring motorist and pedestrian behaviors will help to ensure fewer pedestrian crashes and provide a valuable tool for improvements to the bicycle and

pedestrian program. Partnering will also create a sense of community around pedestrian and bicycle safety.

DATA COLLECTION, ANALYSIS AND PRIORATIZATION

Identifying where crashes occur can be an inexpensive easy way to identify high crash locations, corridors, and neighborhoods. It can be done using technologies such as GIS or on a simple handmade pin map. Typically, five years of crash data should be displayed. Once completed, it should be used as a baseline to focus resources and select counter measures.

Currently, the City of Haysville collects data from the Police Department and state agencies. Beginning an annual assessment of crash data and mapping the data is needed as the number of bicyclists and pedestrians increase.

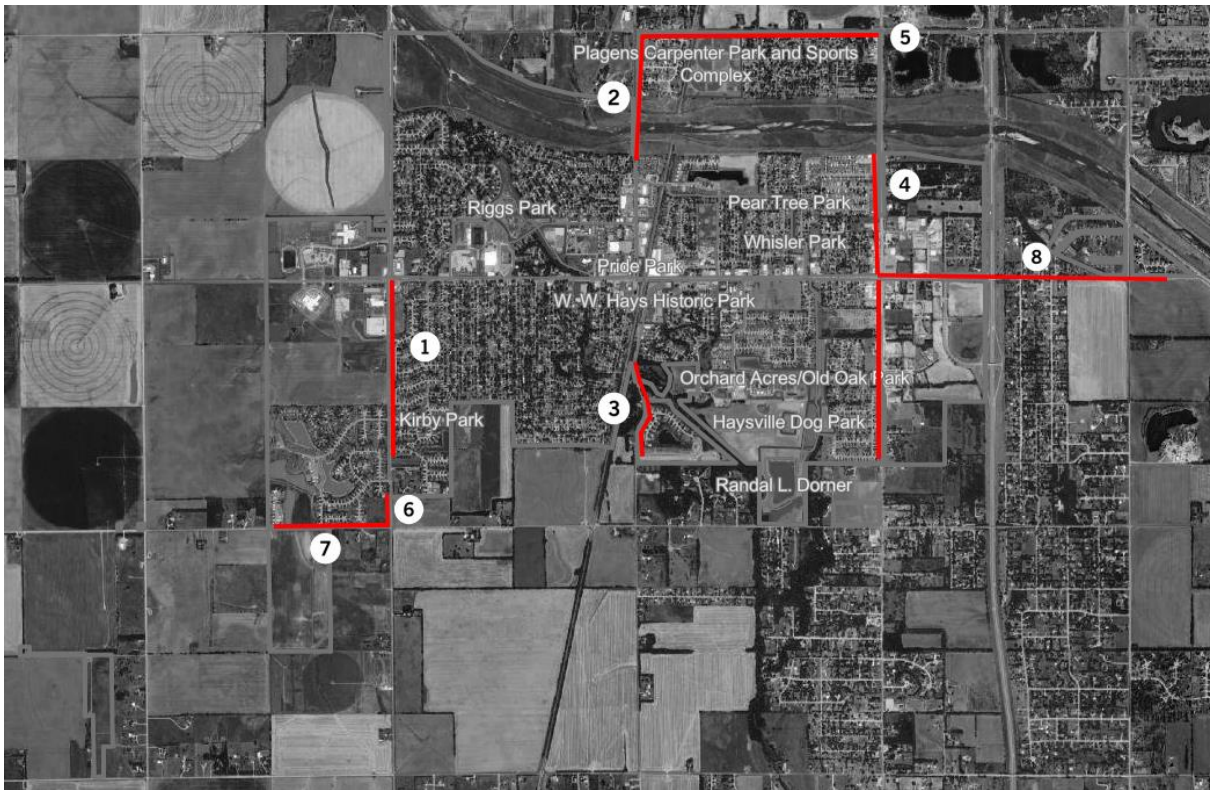
PEDESTRIAN COUNTS

Pedestrian counts along with field observations can be very useful in understanding pedestrian behavior and in considering the need for facilities. Counts and behavior studies, when combined with crash data, can also provide insights into specific crash causes and potential countermeasures. On-site observations will often reveal behavior patterns that lead to design changes. Before and after counts can be used to help secure funding. Pedestrian counts are also important to assess when and where signals, stop signs, and marked crosswalks should be installed.

The City of Haysville currently conducts counts of cyclists and pedestrians at predetermined locations. The use of volunteers to aid in counts is a viable solution so long as a consistent approach is developed, and remote counts are avoided. All data will be made public to ensure compliance with the Kansas Open Records Act.

FUTURE PATHWAYS

PRIORITY IMPROVEMENT PROJECTS MAP



LEGEND

Proposed Sidewalk Extensions

PRIORITY IMPROVEMENT PROJECTS

Eight priority projects have been identified as part of this plan. These projects have been determined to have the most impact to connectivity and pedestrian safety within the city.

1. East Meridian Ave. [71 St. to Chelsea St.]
2. Ward's 4th [Main St/Seneca to 63rd to Mabel]
3. South Main St. [Past Spencer Dr. to W. 79th St. S.]
4. Broadway/US 81 [W. 63rd St. S. to W. 79th St. S.] - It should be noted that US 81 is managed by KDOT and falls outside of the jurisdiction of the City of Haysville.
5. East 63rd St. [Mabel to Broadway]
6. South Meridian Ave. [Saddlebrook St. to W. 79th St. S.]
7. W. 79th St. S. [S. Meridian St. to Cattail St.]
8. East Grand Ave [I35 to Suncrest Addition]

1. EAST MERIDIAN AVE. S. [71st to Chelsea Street] SIDEWALK EXTENSION

A pedestrian connection on East side of South Meridian to Chelsea St. will further connect pedestrian system and provide a safe route of travel.

This plan proposes extending the existing walk from 71st St. on the east side of Meridian St. south to Chelsea St. The infrastructure proposed for this sidewalk extension is 4 inch thick and 6-foot-wide fiber reinforced concrete walk on a compacted aggregate base. For safety reasons, the sidewalk improvements should include a minimum of 3 foot of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. ROW will need to be confirmed by survey at the time of implementation to confirm these findings.

2. WARD'S 4th [Main St/Seneca to 63rd to Mabel] SIDEWALK EXTENSION

A pedestrian connection to the Ward's 4thAddition is an impactful approach to improve pedestrian connectivity within the City of Haysville. Based on community feedback and on-site observations, it is apparent that a connection to this area of the community is both needed and desired. Currently, the Seneca Street bridge crossing is equipped with sidewalks that end immediately north of the bridge.

Providing a pedestrian connection along Seneca Street from the east side of the Seneca Street Bridge, north to the intersection of West 63rd Street and continuing east along the south side of West 63rd St. to the intersection of South Broadway is a priority improvement project. This improvement consists of a 6-foot-wide pedestrian sidewalk, an at-grade pedestrian train crossing and requisite safety signage. For safety reasons, sidewalk improvements should include a minimum of 3 feet of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. Preliminary ROW review based on available GIS data indicates that sufficient ROW is available on this route to implement these improvements within existing ROW. ROW will need to be confirmed by survey at the time of implementation to confirm these findings. Additional coordination between the city and the railroad will need to occur in regard to the crossing on West 63rd St. While it appears that enough crossing width is in place to accommodate a sidewalk crossing at this location, this must be confirmed by regulatory parties prior to implementation. The rail crossing is currently signalized for vehicular traffic but will need to be signaled appropriately for pedestrian use. The rail crossing will require coordination with railroad officials.

Secondary projects for this improvement area include:

- A connection north on South Seneca to the intersection of S. Seneca and W. 55th St. S. to connect to the City of Wichita.

3. SOUTH MAIN ST. [Past Spencer Dr. to W 79th] SIDEWALK EXTENSION

A pedestrian connection on South Main extending south to the south entrance to Timber Creek will connect the residents of Timber Creek to the heart of Haysville. Currently there is a sidewalk extending mid-block between Spencer Dr. and Timber Creek St. on the east side of Seneca/South Main St.

This plan proposes extending the existing walk on the east side of S. Main/ S. Seneca St. south to the intersection with W. 79th St. S. The creek crossing between Spencer Dr. and Timber Creek St. poses a potential challenge for the sidewalk extension. At the time of construction documentation, a survey and geotechnical report will be necessary to determine the best option for crossing the creek with a pedestrian walk. The infrastructure proposed for this sidewalk extension is a 4 inch thick 6 foot wide fiber reinforced concrete walk on a compacted aggregate base. For safety reasons the sidewalk improvements should include a minimum of 3 feet of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. Preliminary right-of-way (ROW) review based on available GIS data indicates that sufficient ROW is available on this route to implement these improvements within existing ROW. ROW will need to be confirmed by survey at the time of implementation to confirm these findings. MUTCD approved pedestrian crossing signage should be included where sidewalk crosses street intersections on this route.

Secondary projects for this improvement area include:

A connection south to W. 79th St. S.
A connection west on W. 79th St. S. to S. Meridian St.
A connection east on W. 79th St. S. to the south entrance of Dorner Park.

4. BROADWAY/US 81 [W. 63rd St. S. to 79th St. S.] SIDEWALK EXTENSION

A pedestrian connection from W. 63rd St. S to 79th St. S. will connect the northeast edge of the city to the southeast edge and provide a safe route for travel. This will also create a loop in the sidewalk system.

The infrastructure proposed for this sidewalk extension is 4 inch thick and 6-foot-wide fiber reinforced concrete walk on a compacted aggregate base. For safety reasons, the sidewalk improvements should include a minimum of 3 foot of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. It should be noted that US 81 is managed by KDOT and falls outside of the jurisdiction of the City of Haysville.

Secondary projects for this improvement area include:

A connection west on W. 79th to the south entrance of Dorner Park.

5. WARD'S 4th [E. 63rd St. to Broadway] SIDEWALK EXTENSION

This is a continuation of the pedestrian connection to the Ward's 4thAddition that will continue to improve pedestrian connectivity within the City of Haysville. This will extend the sidewalk east along the south side of East 63rd St. to the intersection of South Broadway.

This improvement consists of a 6-foot-wide pedestrian sidewalk, For safety reasons, sidewalk improvements should include a minimum of 3 feet of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. ROW will need to be confirmed by survey at the time of implementation to confirm these findings.

Secondary projects for this improvement area include:

A connection east on 63rd St. towards Hydraulic Ave. and ultimately connecting regionally with the cities of Wichita and Derby.

6. SOUTH MERIDIAN AVE. [Saddlebrooke St. to 79th St. S.] SIDEWALK EXTENSION

A pedestrian connection on S. Meridian to W. 79th St. S. will connect the southwest edge of the city to the pedestrian system. This plan proposes extending the existing walk on the west side of S. Meridian St. south to the intersection on the north side of 79th St. S.

The infrastructure proposed for this sidewalk extension is 4 inch thick and 6-foot-wide fiber reinforced concrete walk on a compacted aggregate base. For safety reasons, the sidewalk improvements should include a minimum of 3 foot of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. ROW will need to be confirmed by survey at the time of implementation to confirm these findings.

Secondary projects for this improvement area include:

A connection east on W. 79th St. S. to S. Main / S Seneca St.

7. WEST 79th [S. Meridian to Cattail St.] SIDEWALK EXTENSION

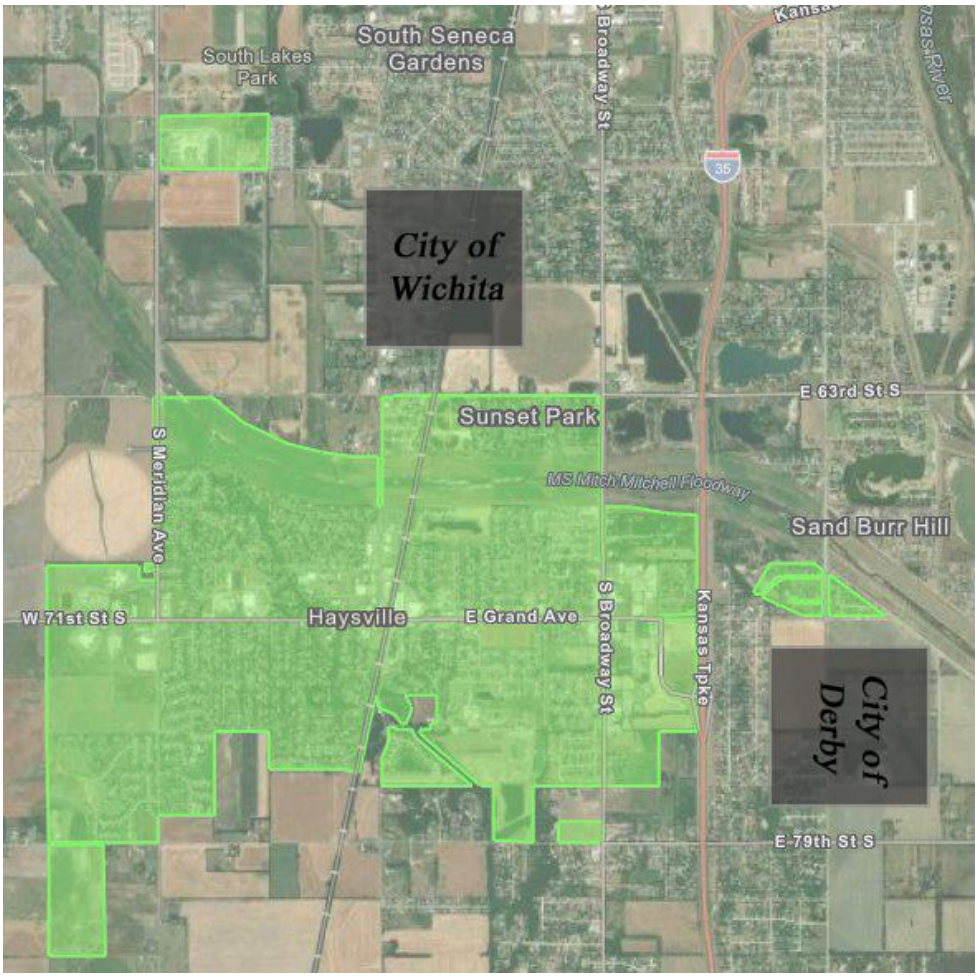
A pedestrian connection from South Meridian along 79th St. to Cattail St. will connect the southwest edge of the city to the pedestrian system. This plan proposes extending the sidewalk from S. Meridian St. west on the north side of W. 79th St. S. to connect to the new development on Cattail St.

The infrastructure proposed for this sidewalk extension is 4 inch thick and 6-foot-wide fiber reinforced concrete walk on a compacted aggregate base. For safety reasons, the sidewalk improvements should include a minimum of 3 foot of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. ROW will need to be confirmed at the time of implementation to confirm these findings.

8. EAST GRAND [I35 to Suncrest Addition] SIDEWALK EXTENSION

A pedestrian connection extending east on Grand Avenue to the Suncrest Addition will connect residents of the easternmost portion of Haysville back into the core of town. Currently, there is a sidewalk on the south side of Grand Ave. extending to the east side of Interstate 35.

The sidewalk extension improvement will require coordination with Sedgwick County as a portion of the roadway falls outside of Haysville city limits. The infrastructure proposed for this sidewalk extension is a 4-inch-thick 6-foot-wide fiber reinforced concrete walk on a compacted aggregate base. For safety reasons, the sidewalk improvements should include a minimum of 3 feet of tree lawn between the roadway and the proposed sidewalk; 4-6 feet is preferred. ROW will need to be confirmed by survey at the time of implementation to confirm these findings. MUTCD approved pedestrian crossing signage should be included where sidewalk crosses street intersections on this route.



REGIONAL CONNECTIVITY

LEGEND

City Limits -

The City of Haysville is near several municipalities. The successful coordination between these municipalities to connect bicycle and pedestrian infrastructure will have a dramatic impact on regional connectivity. The City of Haysville should work in coordination with the City of Wichita, the City of Derby, and Sedgwick County to implement bicycle and pedestrian infrastructure in a strategic way. Due to the adjacency of multiple agencies, each with their own infrastructure standards, it will be critical for each of these governing bodies to work closely to the development of a unified development standard for use in these perimeter locations. This will help to maintain safety standards while creating a sense of place respectful of each municipal identity.

NEXT STEPS

IMPLEMENTATION

Implementation is the most rewarding next step for the city and its residents once the Haysville Bicycle and Pedestrian Implementation Plan is adopted. First, integration of proposed improvements into annual capital improvement budgets will allow short-term implementation of priority projects. While this is the most rapid and tangible implementation process, it is limited by available funding. The second implementation strategy to be explored is grant funding. Grants are available for a myriad of different project types and scales. For improvements that are important to the community beyond the abilities of current funding streams, the evaluation of additional community infrastructure taxes should be considered.

FUTURE STUDY

A critical component of any plan is the refreshment of the ideas proposed once the realities of the community evolve. While the proposals in this document span the coming decade, it is important to note that these proposals have a shelf life. This plan should be reviewed annually and revised as needed to address any future developments.

MAINTENANCE

Bicycle and Pedestrian networks require ongoing maintenance of the infrastructure in place. The city should conduct annual infrastructure reviews which can be used to strategically plan for maintenance and replacement as needed. The following scale should be used when considering maintenance and replacement.

Rating - Zero

'0' ratings indicate areas with no sidewalk or trail present. '0' ratings may indicate a need for walks or simply an area that does not have a walk and does not have a specific need for a walk. These areas will be distinguished in the recommendations based on whether priority projects are identified for these areas.

Rating - One

Inaccessible walks or trails:

Ratings of '1' indicate severe degradation of the walk or trail. These walks are in need of replacement in order to be functional for pedestrian circulation. Walks and trails with a rating of '1' are not accessible and pose a public safety risk. These walks and trails should be prioritized when planning capital improvement projects. '1' ratings are

indicative of crumbling pavement, large cracks, overgrown vegetation, vertical heaving.

Rating - Two

Occasional accessibility challenges:Walks and trails with a ‘2’ rating are a mix of serviceable pavement and inaccessible pavement. These walks and trails present accessibility issues for children, wheelchairs, and strollers. Moderate public safety risk exists on these walks and trails. ‘2’ rated walks and trails should be considered priority repair projects. Examples of this category include root heaved pavement, lack of accessible ramps, and pavement cracks.

Rating - Three

‘3’ ratings are indicative of aging infrastructure that will fall into a ‘1’ or ‘2’ rating in the near future. This infrastructure has met or exceeded its material lifecycle and is still performing as an acceptable pavement surface. ‘3’ ratings should be considered for replacement if located within priority project areas. ‘3’ rated pavement outside of priority improvement areas should be monitored and planned for replacement in near term budgeting.

Rating - Four

‘4’ ratings are pavements that fall into the designed lifecycle of the material and are still fully accessible. Examples of these pavements would be 1-10 year old concrete sidewalks with accessible curb ramps and no accessibility barriers. There is no need for improvement to ‘4’ rated walks and trails. Once these areas fall into a ‘3’ rating they should be identified as improvement projects.

Rating - Five

‘5’ Ratings are given to newly installed pavement that meets all current accessibility guidelines.

FUNDING

The development of this plan provides Haysville with a list of projects to implement in the near future. There are funding sources, both regionally and statewide, that support active transportation in communities.

WAMPO

The Wichita Area Metropolitan Planning Organization coordinates planning activities in the Wichita region and passes federal funding to communities within the region. There are two federal funding programs that can be used for active transportation projects in Haysville:

SURFACE TRANSPORTATION PROGRAM

STP funding is the most flexible funding program within the Federal Highway Administration (FHWA) and can be used for highway and bridge projects, transit, bicycle and pedestrian projects and safety initiatives. It is also the largest funding program offered through FHWA. In the Wichita Metropolitan Area, this program has generally been allocated to roadway, highway and bridge projects.

TRANSPORTATION ALTERNATIVES PROGRAM

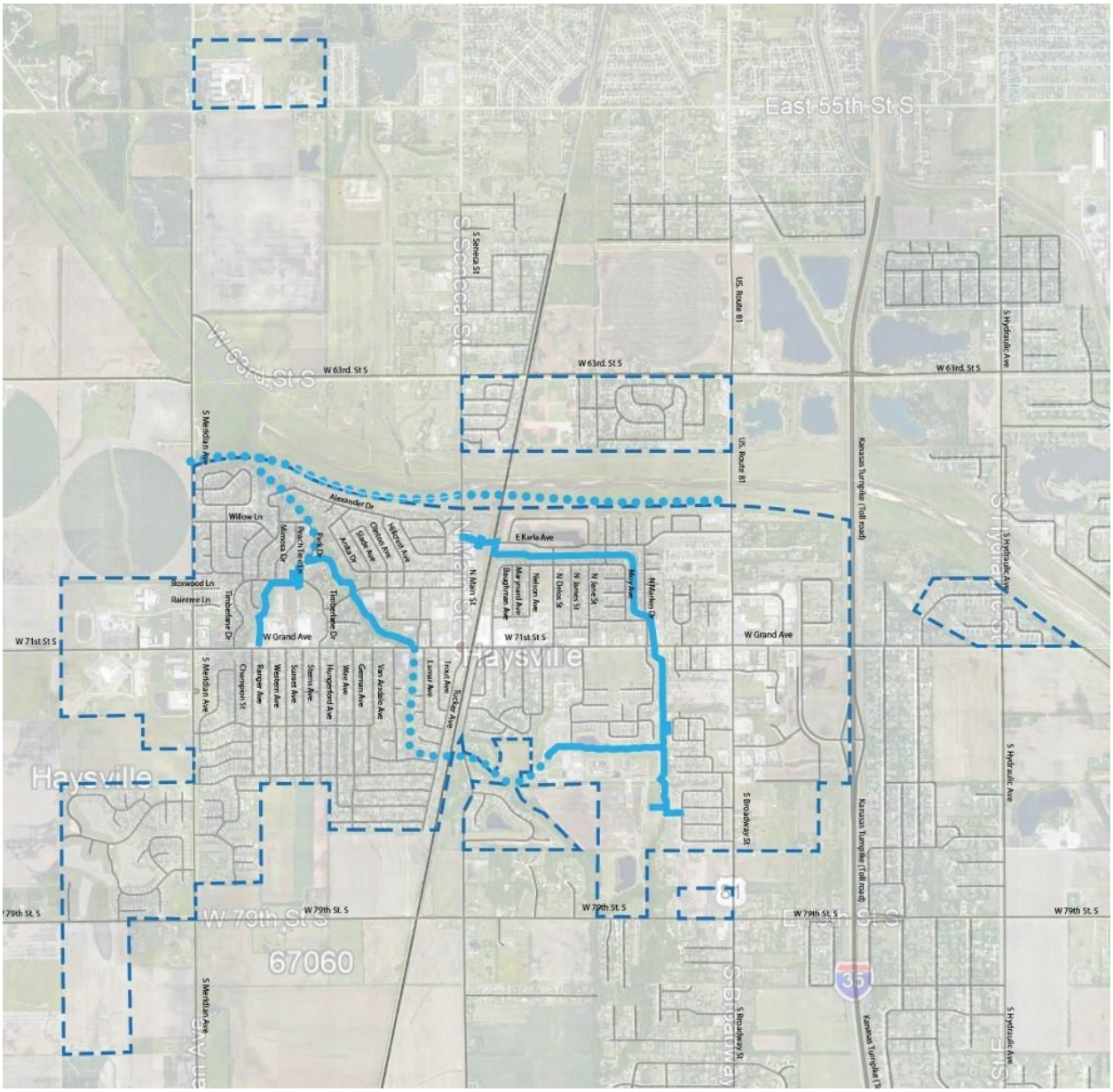
TA funding is intended to be used for small scale community improvement projects with eligibility including bicycle and pedestrian facilities, recreational trails, safe routes to school projects, historic preservation and vegetation management. In order to be most successful, the projects should show regional significance and provide a transportation option and not only an output for recreation.

COMMUNITY DEVELOPMENT BLOCK GRANT FUNDING

In addition to FHWA passthrough funding through WAMPO, the City of Haysville has the opportunity to use Community Development Block Grant funding for community improvements such as sidewalks. This funding is provided from the US Department of Housing and Urban Development through the Kansas Department of Commerce.

FUTURE VISION PROJECTS

GREENWAY TRAILS



LEGEND

- Existing Greenways
- Proposed Greenway Planning Study

WICHITA VALLEY CENTER FLOODWAY GREENWAY

The crown jewel of the Haysville greenway trail system, the 2+ mile long Floodway Greenway embraces the largest unprogrammed expanse of open greenspace in the city. Currently, access to the floodway is restricted, however, the floodway represents a great potential for passive recreation. Preliminary discussions with the City of Wichita and Sedgwick County have revealed the potential for greenway development in this corridor given to coordination of permitting agencies and design parameters. Levee construction in the floodway is such that governing agencies prefer to limit public access to levees. Two potentially viable alternatives to levee top trails should be evaluated through further study. First, Corps of Engineers land that exists to the south of the southern levee could be condemned for recreational use and utilization for greenway trail development. Second, an in-channel trail developed with low maintenance materials and no vertical elements could be explored as an alternative. A trail system outside of the existing levees is preferred from a permitting perspective due to the reduction of flood study requirements and potential risk factors involved with access to the floodway itself. However, development within the confines of the existing levee is a more scenically attractive solution as it would allow users to view the channel and adjacent vegetation. Furthermore, the greenway trail in this area should examine the use of low maintenance and flood tolerant materials. For example, the use of decomposed granite (chat) pathways as opposed to traditional hard surfacing will allow for ease of flood cleanup and reduce the need for future cost heavy maintenance. A further study of the potential greenway connection along the Wichita Valley Center Floodway between South Meridian St. and South Broadway should be considered. This connection would provide tremendous quality of life and amenity to residents of the community.

RIGGS PARK EXTENSION GREENWAY

Riggs Park Extension Greenway is proposed from the existing trail within Riggs Park, through the Cowskin Creek riparian corridor and connecting to the proposed Wichita Valley Center Floodway Greenway. If this greenway were to be completed prior to the Floodway Greenway, it should connect Riggs Park to the proposed multi-modal path on South Meridian Ave. A detailed study of the alignment of this greenway will be required prior to the implementation to determine easement requirements and any stream stabilization efforts that may be required. This section of the greenway will serve to connect a large stretch of existing trail through Riggs Park and Fred Cohlmia Park to the floodway and pedestrian infrastructure on South Meridian Ave. Offering a very different ecotype, this riparian trail corridor will offer a great juxtaposition to the open grassland of the floodway greenway.

CENTRAL GREENWAY

Connecting to Fred Cohlmia Park trail to the Chris Elsen Memorial Skate Park via a stream corridor trail, the Central Trail is approximately one mile in length. The Central Greenway is so aptly named due to its central location within Haysville. The crossing

occurs between Turkle Ave. and S. Seneca St. This will require an engineering study and likely result in a pedestrian tunnel below the rail bed. The Central Greenway is the single most impactful piece of greenway planned from the community connectivity perspective. Completion of this section of greenway will allow users to travel via off-street trail from Riggs Park, through the following parks; Chris Elsen Skate Park, Old Oak Disc Golf Course, Randal Dorner Park, Orchard Acres Park, Whisler Park, and Pear Tree Park before ending at the multi-modal path on North Main St. at East Karla Ave. Central Greenways one mile connection will result in over three miles of interconnected greenway. Advanced study of the creek corridor in order to determine the best routing and any requisite stabilization will be required.

PEDESTRIAN IMPROVEMENTS

Future bicycle and pedestrian routes should include sidewalk infrastructure for pedestrian circulation in addition to the bicycle infrastructure described below. Pedestrian sidewalks shall consist of 6’ wide concrete walks with all required ADA infrastructure at street crossings (ramps, truncated panel, signal where necessary).

MULTI-MODAL PATH

A complete network of 10’ multi-modal concrete pathways to accommodate bicycle and pedestrian circulation is the vision of the City of Haysville. This infrastructure has been implemented on North Main St. and Grand Ave. This infrastructure should be expanded to encompass the primary arterial circulation of the city. Multi-modal paths work in conjunction with standard pedestrian infrastructure and crossing interventions where street crossings are required. Multi-modal paths should consist of a 10’ wide concrete walk set back from adjacent roadways 6’ (minimum of 3’) and buffered by a planted strip. Where possible for distances of at least one block; multi-modal paths should meander with broad sweeping curves suitable to accommodate the riding speeds of cyclists. All multi-modal paths should be built to current ADA requirements as defined by the U.S. Department of Justice.

2023 Park Board

Haysville Parks Master Plan

Purpose

The purpose of the Haysville Master Parks Plan is to describe Haysville's existing park and recreation facilities and to project future needs and improvements that will satisfy both the short range and long range recreational needs of the City. A discussion of Haysville's park areas and their evolving needs follows.

Riggs Park

Riggs Park contains approximately 19.5 acres. The Cowskin Creek forms its eastern boundary and extends approximately 2,200 linear feet along the park. There is a small picturesque lake in the northern part of the park which occupies a large portion of the Cowskin Creek floodplain. The lake is stocked and is used regularly by citizens. A wide and relatively deep channel, which was an old meander of a creek, bisects the park and gives the lower half of Riggs some interesting topographic character. The City Hike & Bike Path was installed and curves through the park. With the installation of the path; antique style lighting, black wire benches and trash receptacles were installed to make this section uniform with other portions of the path. The lighting increases park security and extends hours of utilization.

The northern portion of the park has two shelters; Timberlane Shelter, an open picnic shelter, and the Lion's Club Shelter. Both shelters are on concrete pads and provide clean, attractive areas for picnic activity. The Lions Club Shelter is enclosed and has restrooms, kitchen facilities and an outdoor barbeque grill. Restroom facilities in the northern section of the park were remodeled in 2012, with an additional set of ADA compliant restrooms added to the south side of the existing facilities. These facilities are open year round. Two off-street parking areas have been developed in the northern park and are accessible from Park Drive. The parking area to the west has a gravel surface and a capacity of approximately 25 to 30 vehicles.

The eastern parking area is paved and contains handicapped parking for 4 vehicles. The south portion of the park contains two picnic shelters: Riggs Shelter and the Police Shelter.

Riggs Shelter was rebuilt in 2003 and its design serves as the template for all park shelters built since then. These structures are brick and have ADA compliant bathroom facilities, which were engineered for favorable air flow to keep restroom temperatures tolerable, and to aid in odor control. The two shelters have electricity and water facilities available by key to renters of the shelters. A Band Shell is also available for rental, and is used as a stage for a variety of events.

The south side of the park has a large, asphalt-surfaced off-street parking lot, which can be accessed at two points from Hungerford. The parking area is not marked, but is estimated to hold approximately 16 vehicles. There is adequate security lighting in the parking lot, and throughout the park.

Playground equipment is located throughout the park, but can be viewed as consisting of two distinct areas. The northern area was redone in 2017 and consists of equipment meant to serve ages 2-5 years old. The southern area features a 6 bay-swing set, merry-go-round and jungle-gym type of equipment with multiple play options. There are two black wire benches for seating.

Completed Improvements

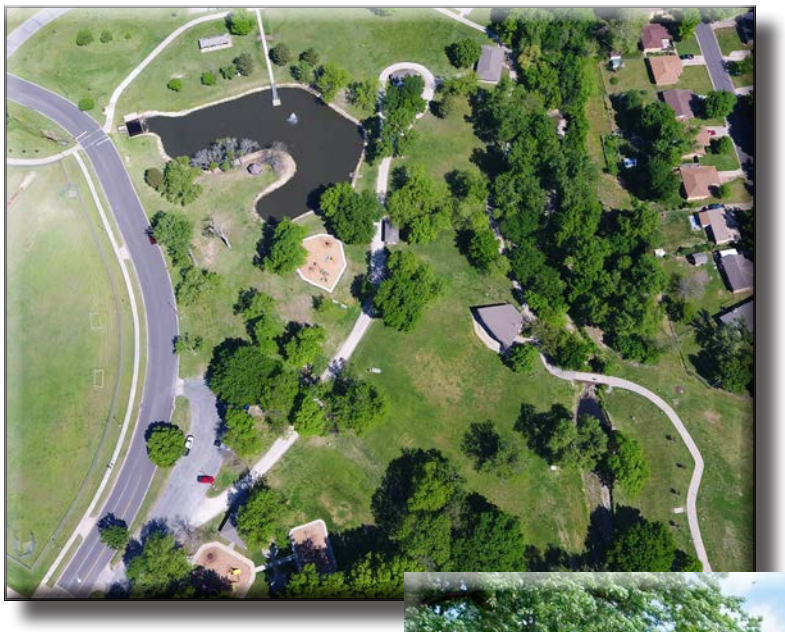
In 2012 the pond was dredged to a depth of 6', trees were removed from around the pond when this project was completed. The spillway was replaced with a recessed structure and the well pump and fountain were replaced. The parking lot to the north was surface sealed in 2010. Damaged slides in the southern park were replaced, and a nine-hole disc-golf course was installed throughout the Park in 2011. The fence was removed around the horseshoe pits for easier maintenance. In 2015, the old swings and merry go round north of the south shelter were removed. A new 3-bay swing structure was installed with a concrete apron, drainage system and new wood chips. In 2015 a floating dock and sidewalk from the north parking lot was installed. This was to allow for ADA accessibility after a complaint was received after the rip rap was installed around the lake. In 2017, a drinking fountain was installed that has an additional attachment for canine usage. This fountain is located on the south end of the park by the hike/bike path. In 2012 the north teeter-totters were replaced, the other equipment was replaced in 2017. This included a new slide, play structure and tire swing with a concrete border. Near this area, the girl scouts completed a beautification project on the WWII Veteran's Memorial. Additional larger rip rap was placed around the lake in 2018. Furthermore, huge improvements were made to the WIFI speeds increasing them from 5 Mbps to an average of 50 Mbps.

Planned Improvements

- Replace the two benches in the northern park area that do not match the standard.
- Replace the water main.
- Update Timberlane Shelter lighting to vandal-proof lighting.
- Upgrade gravel parking facilities to hard surface due to deterioration.
- Replace the gravel road with a twelve foot asphalt roadway.
- Mark gravel parking lot to bring it into ADA compliance.
- Landscaping is deemed as complete, but continual maintenance on areas such as the concrete H is a necessity.

History

Harley and Mildred Riggs were the original owners of the park area. The city grew around their land. Before being taken into the City, Harley platted his ground, and in the original plat there were three streets to be named for his three grandchildren - Sarah (Lane), Christine (Court) and Larry (Drive). Larry Drive was eventually omitted for drainage purposes. The northern 11 acres of the park were originally platted as Timberlane Park when that addition was developed. The dividing line between the two parks was described as an old drainage tributary that extended from the Park Drive and Timberlane Drive Intersection almost directly east to the Cowskin Creek. In May of 2015 the Park Board voted to combine the two parks into one, in accord with popular perception of the entire area as Riggs Park.



Fred A. Cohlmia Memorial Park & Dewey Gunzelman Swimming Pool

Fred A. Cohlmia Memorial Park contains approximately 7 acres and is located along the east bank of the Cowskin Creek. Approximately 650 linear feet of Cowskin Creek make up the park's west boundary. The park is relatively flat over its total area. The Dewey Gunzelman Swimming Pool is located within this park. The park contains a playground area designed for 5-12 year olds with shaded seating, two sand volleyball courts with lights available for after-hours usage, a drinking fountain, security cameras and a bike rack. A portion of the City's Hike & Bike Path runs parallel to the Cowskin Creek.

The Dewey Gunzelman Swimming Pool, which was rebuilt in 1991, is an eight lane 50-meter offset "L" shaped swimming pool. The diving bay includes both one-meter and three-meter diving boards, and a drop slide.

The shallow end of the main pool has a 160-foot blue slide and an ADA compliant chair lift. The intermediate pool includes a small water slide and baby pool. The pool also has a concession stand, picnic tables, seven shade structures, benches and showers in the bathroom facilities. A new parking lot located south of the HAC provides ample parking to serve the needs of patrons for the HAC and pool. Additional parking is located north of the swimming pool on Sarah Lane.

Completed Improvements

In 2008 installation of a splash pad was completed on the northwest corner of the pool. Two benches, a shade structure and fencing were installed. The fencing was constructed so that citizens can access the splash pad when the pool is closed. In 2013 a sidewalk was added along the east side of the volleyball courts from Clinton Ave to the Hike and Bike Path. In 2016, on-street parking was added along Sarah Lane during the construction of the new Activity Center that was completed in June of 2017. A second sand volleyball court was added in 2017. A bike fix-it station was installed in 2017. In 2018, a new playground was installed with a drinking fountain, 2 canopies and a sidewalk connection, 2 security cameras were added to cover this area. New bike racks were installed next to the Activity Center and the playground. Grass was also planted along with 7 trees as part of the Arbor Day Tree Planting in 2018. In 2019, picnic tables with ADA accesability were purchased for the concession stand. Deck chairs were purchased for patrons to use. In 2022 the PVC pipe around the sand volleyball courts was replaced with concrete. Permanent concrete cornhole boards were installed next to the volleyball courts.

Planned Improvements

- Add an ADA swing.
- An additional parking lot could be added for overflow parking to the north of Sarah Lane.

History

Fred A. Cohlmia was a local businessman and supporter of the community. He owned Cohlmia's Clothing Store. Dewey Gunzelman Swimming Pool was named after Dewey Gunzelman, who lived north of the floodway. Before Haysville had a public pool, he owned a private pool which he opened up for use by area children.

Plagens-Carpenter Park/Sports Complex

Plagens-Carpenter Park consists of 30 acres located south of 63rd Street and west of Mabel Street. Four multi-use diamonds exist on the north section of the land with a storage area and concession stand in the middle. Field 1 and 3 are home to the Campus High School Colts and the Haysville Aviators Collegiate baseball teams. This field has an announcer box and flag pole for use during games. Two multi-use diamonds are located to the south, that are practice fields for the Campus softball team. Two youth-sized diamonds are located to the east. When HJBL disolved in 2014 the HAC took over the youth baseball and softball prgoram. The fields at Nelson Elementary were named after Carl Hall in 2011, a Campus High graduate that played baseball. With the completion of the two east fields in 2016, the sign was moved. Two batting cages are located between fields 2 and 3. All of the fields have irrigation systems.

The park area of Plagens-Carpenter Park includes two shelters. The main enclosed shelter was built in 2003, adhering to the template used in the other City parks. The second shelter was built as an Eagle Scout project and is not enclosed. Existing playground equipment is older and not up to current standards. A basketball court is located in the southeast corner of the park. The parking lot is gravel and extends the entire length of the park, east to west and south along field six. A smaller parking lot is located to the north of field eight. Although not marked, the parking lots can hold approximately 300 vehicles. The parking lot must remain gravel to maintain FEMA Floodplain requirements, but ADA compliance needs to be evaluated.

Completed Improvements

Fields 5, 6, 7 and 8 have been added, completing the complex field design. An announcer box and flag pole were added to field 1 in 2011. Yellow capping and irrigations systems have been completed on all fields. Three additional storage sheds have been installed for equipment. Additional bleachers have been added to fields 1, 5, 6, 7 and 8. Concrete was added next to the announcer box on Field 1. As well as concrete pads and sidewalks going out to 7 and 8. In 2016, new score boards were added on fields 2, 3 and 4, along with an LED sign on field 1. In 2017, a new scoreboard was installed on field 1. At this same time WIFI coverage was expanded with a second access point placed on the new scoreboard. In 2022 the shade structures were installed over the bleachers on all fields and the dugouts on fields 5/6. Also in 2022 the block walls were removed in front of the restrooms doors and concrete was installed in the walkway between fields 3 and 4.

History

The park was named after Otto Plagens and Jack Carpenter who the City purchased the front 10 acres of land from. The back 10 acres were purchased by the Sunflower Improvement district for park land. The original name for the park was Carpenter-Plagens. Jack Carpenter asked the name to be changed to what it is today. In 1987 dirt work began, in 1994 the first ball game was played on Field 1. Field 1 and 2 were completed at that time, between 1994-1998 fields 3 and 4 were built and they were completed after tornado damage in 1999. The Concession stand was completed around 2000.

Planned Improvements

- Redesign the parking lot to accommodate for additional parking.
- Repaint the small shelter in the park
- Install a drinking water fountain next to Carl Hall fields.
- Construct restroom facilities between the south and east fields.
- Evaluate the parking lot and any construction on fields 5 and 6 with FEMA guidelines.
- Add concrete pads to the bleachers on fields 1, 5 and 6.
- Install protective netting between fields.
- Finish the concrete around the concession stand area.
- Make provisions for the 63rd street bike/pedestrian project to include plans to connect to the park. This is planned for 2023.
- Add lighting to fields 5 and 6.
- Consider playability improvements for field 1 (Reduce field size, dugout improvement, bullpens fencing).
- Replace playground equipment. This is planned for 2023.

Orchard Acres Park

Orchard Acres Park is located on South Ward Parkway to the west of the Orchard Acres Addition and north of the South Field Addition. It is a long, narrow parcel and contains approximately 3.0 acres. Most of the site is relatively flat and is bordered on the west by a 60-foot wide drainage channel. On the north end of park is a concrete slab and basketball goals. In the middle is a small open shelter with picnic tables next to a large playground area. On the south end (Southfield addition) is the main shelter, built in 2003, which adheres to the template used in the other City parks. The Old Oak disc golf course runs through this park as well. There is parking available along the street.

Completed Improvements

The playground area has been updated with a new drainage system, new wood chips, a concrete apron and three additional pieces of equipment. The open shelter next to the playground was repaired and repainted. Three additional trees were planted next to the basketball courts as a part of the Arbor Day Tree Planting in 2018.

History

Mary and Leon Miller were the original owners of the land, Charlie June was the developer. Mike Dirck platted and developed the Southfield addition.

Pear Tree Park

Pear Tree Park is located in the east central portion of town between North Marlen Drive and Moy Avenue. Much of the site contains a major drainage channel; however there are two parcels that are flat and large enough to contain facilities. One has been developed into Pear Tree Park, the other Whisler Park, which will be discussed later. Pear Tree Park contains a shelter, basketball court, playground area and sprinkler system. The shelter was built in 2003 and adheres to the template used in the other City parks.

Completed Improvements

In 2015 the outdated playground equipment was removed. New equipment, along with a new drainage system, wood chips and concrete apron, were installed. The equipment is suited for ages 5-12 years old.

History

The original owners were the Hurley's. Marlen and James McIntosh purchased the land from them. The McIntosh's owned a realty company next to the current Noah's donut shop. McIntosh did not finish the development.

Whisler Park

Whisler Park is located just north of Freeman Avenue at the location where the drainage channel exits the Pear Tree Addition. The site is approximately .4 acres in size. The park contains an open shelter and toddler play equipment for ages 2-4 years.

Completed Improvements

In 2016 on street parking was installed. New toddler playground equipment was installed, as well as two expression swings. In 2017, irrigation design and repairs were made.

Planned Improvements

- Install a splash pad.
- Add benches and smaller sunshades near the spray ground.
- Install a drinking water fountain.
- Plant additional trees throughout park.

History

The area was platted with the Pear Tree addition. Marlen and James McIntosh platted the property. The park was renamed in memory of Norman Whisler, who died in August 1998. Norman lived next to the park on Moy Street. The original park had trees, a swing set and slide that were installed for his dedication.

Old Oak Park

Old Oak Park is located in the Old Oak Addition next to the Public Works main office on South Jane Street. The majority of the park consists of a spring fed lake and the banks surrounding it. The banks have been cleaned and lined to accommodate fishing.

Completed Improvements

An 18-hole disc golf course has been installed in the park with assistance from the Air Capitol Disc Golf Association. The course includes tees for both amateur and professional golfers. In 2015, an aerator was added to the lake due to persistent algae. In addition, a dock was added to allow access to the middle of the lake for fishing and ADA accessibility on the east side of town. In 2016, two sets of launching pads were poured for each disc golf hole. Stepping stones were also added at the south end of the ditch so players can cross over to the connecting shelter. Signage was completed for both the short and long tees. Signage with rules was placed near the Public Works office. A bike fix-it station was installed near the Public Works building in 2017. In 2020, the dock was moved to the lake in Dorner Park due to the inconsistency of the water level.

Planned Improvements

- Install a drinking water fountain.
- Plant additional trees though out the park.

History

Delos Nelson was the original owner of the land which was purchased by Lusk development. W.E. Lusk Jr developed and platted the area. The pond and skate park were included in the Old Oak development.

Chris Elsen Memorial Skate Park

The Chris Elsen Memorial Skate Park was opened in May of 2005 and funded by the Haysville Park Board. The park contains a half pipe, quarter pipe, two moguls, and grinding bar. A portion of the Hike & Bike Path leads to the park, and a basketball court is located adjacent to the park.

Completed Improvements

In 2018, new lighting was installed, along with security cameras.

Planned Improvements

- Evaluate equipment to determine which pieces should be replaced due to deterioration.
- Expand existing equipment to increase BMX track capabilities.

History

In the spring of 2005 Tim Elsen, brother of Chris Elsen (middle school student who had recently passed away due to a heart condition) approached Park Board to discuss the possibility of naming the new skate park in memory of his brother. Skate boarding was one of Chris's favorite pastimes. City Council approved this decision and the park was named in Chris's memory.

Kirby Park

Kirby Park is located east of Chatta Drive, south of West Leonard. The park contains approximately 4 acres, is flat, and drains to the east. The Kirby Shelter was built in 2003, adhering to the template used in the other City parks. The first playground equipment was based off the same template of the other parks in 2003. A basketball court sits at the northeast corner of the park, and practice soccer fields are located to the east. The park has an irrigation system, and a pond is situated at the southeast corner of the park, extending through the surrounding residential development. The pond is maintained by the City.

Completed Improvements

Trees have been removed from the banks as the pond has matured. Two additional pieces of playground equipment were purchased and installed in the play area along with a concrete apron, drainage system and wood chips in 2015. In 2016, a new teeter totter was replaced and rock lining was placed around the lake.

Planned Improvements

- Install a drinking water fountain.
- Install a spray ground similar to the splash pad at Fred A. Cohlmia.
- Plant additional trees in the area.

History

Howard Rischel owned and developed the Peachwood addition (Grand to 4th street) which tied into the Southampton development. The original owners of the Hampton property were Marcell and Melvin Hampton Sr., they platted the pond for park space. The City bought the park land from Hampton for dedication in conjunction with the Peachwood development. The park was named after DL Kirby who worked for public works that died in early 1980's. The swing set was later donated by Curtis Hampton in memory of his daughter, Stephanie Hampton Downing, who passed away. The HOA requested a dock be added to the lake similar to what was installed in Dorner and Riggs Park. Prices were provided and discussion with the HOA included the fact the dock would have to allow public access and which has been an issue in the past with fishing. No action was taken.

Kirby Park and Shelter

Kirby Park Shelter

WW Hays Historic Park

On August 1, 1891, W.W. Hays and his wife Juliet platted the land they owned so that the town, later know as Haysville, could begin. This area was 161.5 acres located at E 1/2 NE 1/4 of Section 6 and W 1/2 NW 1/4 of Section 5, Township 29 Range 1 East, Sedgwick County. The original plat included Lots 1 through 28 running along what was called Main Street (now called South Main). In March of 1898, Haysville First Addition which included Lots 1 through 15 on Hays Street was platted. A small town boasting a lumberyard, blacksmith shop, two stores and a meat market had been founded.

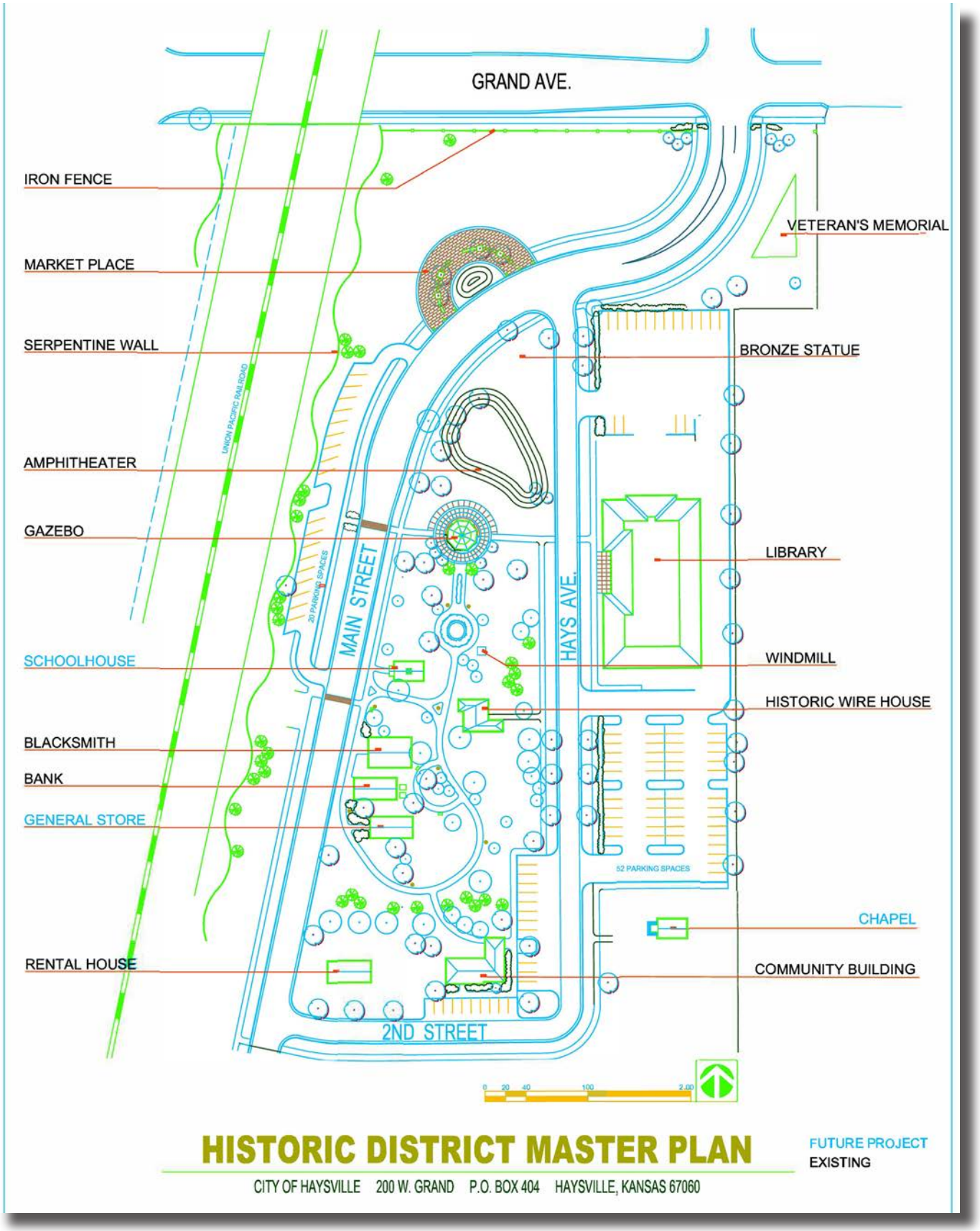
In 1999 this area of "original" Haysville was destroyed by a tornado. In the aftermath, the City of Haysville designated the devastated area a park, naming it W.W. Hays Village Historic Park, and adopted a Master Plan to accommodate development and redevelopment within the area. The park now includes the Wire House, Blacksmith Shop, Haysville State Bank and accompanying outhouses, John Deere Tractor, Library, Community Building, Hometown Market, Historic Gazebo, perennial gardens, a windmill, walking path, and rental house.

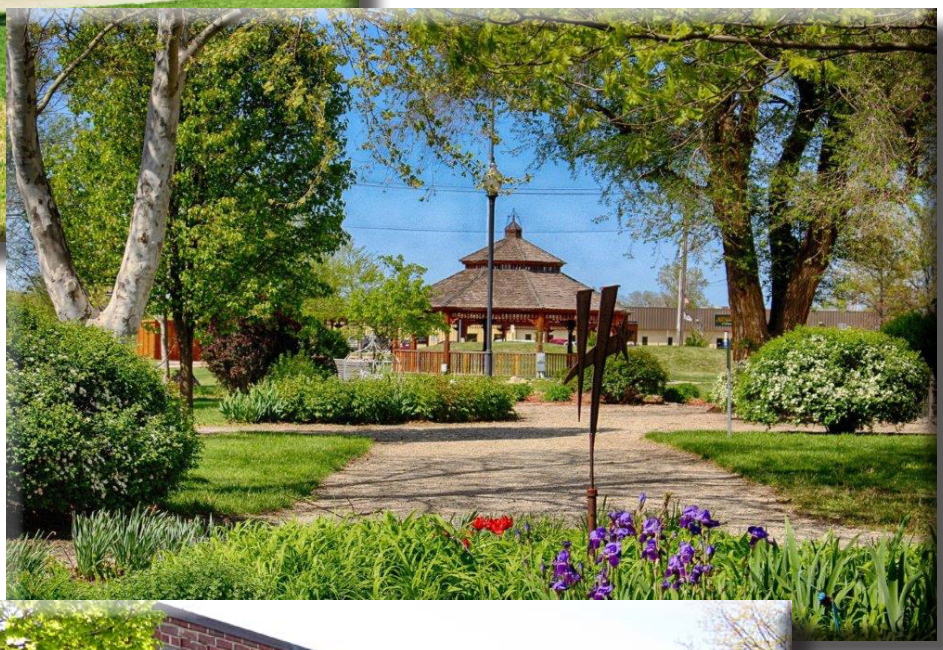
Completed Improvements

Existing buildings are shown on the map below. In 2019 the Wire house was re-sided and painted and the porch was replaced, portions of the Community Building were re-sided and painted, the bank was remodeled and turned into an office.

Planned Improvements

- See map for future additions.
- Signage for walking tour


GRAND AVE.
IRON FENCE
MARKET PLACE
SERPENTINE WALL
AMPHITHEATER
GAZEBO
SCHOOLHOUSE
BLACKSMITH
BANK
GENERAL STORE
RENTAL HOUSE
VETERAN'S MEMORIAL
BRONZE STATUE
LIBRARY
WINDMILL
HISTORIC WIRE HOUSE
CHAPEL
COMMUNITY BUILDING
UNION PACIFIC RAILROAD
MAIN STREET
HAYS AVE.
2ND STREET
20 PARKING SPACES
52 PARKING SPACES
0 20 40 100 200
HISTORIC DISTRICT MASTER PLAN
CITY OF HAYSVILLE 200 W. GRAND P.O. BOX 404 HAYSVILLE, KANSAS 67060
FUTURE PROJECT
EXISTING



WW Hays Historic Park

History

Perennial Gardens

Dedicated citizens have worked many hours planting and maintaining the beautiful gardens in the park. There are several memorial plaques located throughout the park:

- WWII Veterans on behalf of Keever Wire VFW 6957
- Claire Shipe (May 2, 1941 - January 2008
- Kenneth D. Lewis (March 28, 1939 - September 26, 2001)
- Allan E. Cooley (July 5, 1935 - August 3, 2002)
- Phillis Cooley (July 22, 1936 - July 25, 1999)
- Howard K. Ragland (June 2, 1927 - January 11, 2005)
- George Beard (December 31, 1925 - March 31, 2002)
- Howard Cook (October 30, 1939 - August 27, 2008)
- Robert P. Davis Sr. (September 12, 1922 - February 8, 2001)
- Imogene Rardin (October 14, 1936 - August 19, 2008)
- Eunice P. Schenk (June 9, 1923 - November 17, 2004)
- Clarence J. Schenk (July 9, 1923 - November 25, 2003)
- Mildred L.J. Davis (August 12, 1925 - February 11, 2002)
- Carol Jean Huff (January 31, 1947 - June 9, 2007)
- Cary D. Waters (April 4, 1949 – January 15, 2021)

Haysville Library

The Haysville Community Library was established by referendum of the voters in April 1977. Betty Cattrell was named Director in June, and served as the only staff member. The library was initially housed in the Hemphill School building, built in 1948. Private donations supplied books and materials, and in 1978, the Library became part of the Kansas Library System. In 1993, the library moved into a new 10,000 square foot building, which was partially destroyed in the devastating tornado of May 3, 1999. Then, in July of 2009, the library moved into its present home in the heart of Haysville's Historic District.

Chapel

In 1893 the Hays family donated 10 lots in what is now the Historic District for the Prairie Home Christian Church and the Methodist Church. The Methodist Church was built at the corner of Hays and Grand and the Christian Church was moved from its original location south of 63rd and Broadway to First Street between South Main and South Hays. These two chapels were destroyed in the 1999 tornado. The District has become a popular site for weddings. The Historic Committee is planning to either build a replica of the Methodist Church or bring in a salvaged historic church.

Pride Park

Pride Park is located at the intersection of Main & Grand and is a showcase of Haysville. This is a passive park with a water fountain located at its south end. The fountain features two sculpted metal Haysville signs, and illuminated water shows that run at set times. The fountain opens yearly in early-May and runs until the end of October, depending on weather. Between the fountain and the north flower bed is a colored brick-patterned concrete patio with four benches. A portion of the Hike & Bike Path borders the park. The park has a sprinkler system and is equipped with trash receptacles.

Completed Improvements

The long-awaited water fountain was finally completed in 2014. The area has been landscaped with grass, flowering plants and trees. In 2016 fountain lights were repaired and the interior was painted. In 2017, a new drinking fountain, bench and bike rack was installed. In 2018, the fountain interior was repainted. The "Haysville" sign was sandblasted and painted black. In addition, a new transmitter was installed on the Vickers building providing WIFI coverage to Pride Park.

In 2019 the Vickers Building was recognized as a local historic site under the state and national registry. In 2020, the Economic Development Office was moved back into the Vickers building. The carpet was removed to take the building back to the original flooring style and a historical marker was installed near the sidewalk. In 2022 the exterior of the builidng was repainted and the roof was cleaned.

Planned Improvements

- Install a statue in the North flower bed.

History

The Vickers Building and surrounding area were damaged in the May 1999 Tornado. The building was renovated by the City in 2006 and has since been home to the Economic Development Director and the Chamber of Commerce. With the improvements, restrooms were installed which can be accessed from the exterior by citizens.

The park name was chosen through a contest in December of 2008. The water fountain was planned for several years before its final completion in 2014. The conceptual design of the fountain was done by Teri Farha. There is a memorial plaque for Nancy Bennett on one of the park benches.

L.W. Roberts Park

L.W. Roberts Park is located in an old meander between the Cowskin Creek and Van Arsdale from 2nd Street to Spring Drive. It contains approximately 3 acres and much of the area is old Creek channel. The upland area of the park is undeveloped, except for an area adjacent to Stewart Drive on the west. This area has been planted with shade and ornamental trees. L.W. Roberts Park is designated to be a naturalistic facility due to its meandering path and limited drainage.

Planned Improvements

The current arrangement of trees prevents the park from being utilized. By selectively clearing trees the area could be developed into a nature trail. Possibly look at a future study for a playground.

History

Larry W. Roberts was the president of Roberts Mortgage. The company donated the property when the land was platted and the park was named after him. Roberts Mortgage was the original owner.

Reserves A & B

These two small undevloped park areas are located adjacent to 2nd Street between Peachwood Drive and Meridian Avenue. Each parcel is about .12 of an acre. Due to their small size and the busy arterial street bordering both parcels on the west, active recreational facilities would be inappropriate. Their best use appears to be in a purely aesthetic role, providing a welcoming entrance into the Peachwood Subdivisions from Meridian.

History

The land was dedicated when the property was platted.

South Brooke Park

This tract of land is located in the South Brooke Addition to the east of Dorner park and south of Orchard Acres. Most of this area is used for overflow drainage of the Cowskin Creek and not suitable for active recreation. One of the main goals was connecting the South Brooke Addition to the rest of the hike and bike path in the City.

Completed Improvements

Development of Dorner Park began in 2014. In 2016 the hike and bike path connection between Old Oak and Orchard Acres was extended down to the middle of the soccer fields on the west side of the creek. A foot bridge and sidewalk was installed over the creek thus connecting the greenspace of South Brooke to Dorner Park and Old Oak Addition.

Timberlane North Park

Timberlane North Park is located on the northwestern boundary of the City in the Timberlane North Addition. It can be accessed from Caleb Street or Aspen Street. The majority of the park is a pond and its surrounding banks. The land is planted with Bermuda grass to absorb and resist heavy water flows from Aspen Street, preventing erosion of the pond banks. This area does have a sprinkler system.

Planned Improvements

- Remove dead/diseased trees and plant new trees. Protections for the Northern Long-Eared Bat will affect tree removal and will require monitoring.
- Local residents have expressed a desire to replace the existing Bermuda grass with a Fescue blend. However, until drainage issues are resolved, Fescue and similar grasses would be washed away with heavy rains or storms, leaving substantial erosion damage.

History

This park was dedicated when the land was platted.

Randal L. Dorner Park

Dorner Park is the latest addition to the Haysville park system. Dorner Park is located near the intersection of 79th St South and Broadway. The entrance to the park is graced with the Randy Dorner Memorial. Dorner Park is an 80 acre plot which contains eight youth soccer fields, a concession stand and two 24 hour restrooms. The soccer fields are used by the Recreation Department for league games. On the west side of the park, two dog parks have been constructed - one for small dogs (under 45lbs) and one for all dogs. There are over 1.5 miles of bike path that tie into the main bike path at the north side of the park. On the south side of the park there is a 10 acre lake with a dock.

Completed Improvements

In 2016, dirt work, sprinklers and grass seed were installed on the north four soccer fields. Some of the dirt work was completed on the south fields as well. The sidewalk was completed connecting Old Oak to South Brooke along with installing a footbridge to cross over the creek. In 2017, 6 new trees were planted as part of the Arbor Day Tree Planting event.

The soccer fields were completed in the fall of 2018. The road and parking lot to the west of the fields were paved. Soccer began play there in the spring of 2019 and the concession stand was completed in the fall. The dog park opened in October. The access road and parking lots were paved.

In 2020, 4 canopies were added around the lake with picnic tables and grills and additional parking was added to the south of the soccer fields. The Angel of Hope memorial, Trout Shelter and a playground was built north of the lake in 2020.

In 2021 restrooms were built north of the lake and the Dorner memorial was built at the entry. In 2022 Security cameras were added near the playground and shelter. Pickleball and sand volleyball courts were built, lighting was installed along the lake and wifi added along the north side of the lake. A bicycle repair station was also added next to the lake restroom. WiFi was added in 2022. Aerator fountains were added in 2023.

Planned Improvements

- Build additional soccer fields.
- Build an enclosed building (next to the entry on the south side).
- Add additional parking to the east of the lake.
- Add a bike rack.

History

Randy Dorner was the Public Works Director for Haysville for 26 years. Randy passed away in 2017, his last project with the city was the installation of the 79th St Park Bridge. After his passing the park land was dedicated to Randy for his service to the City of Haysville. Upon the dissolution of the Peach Capitol Soccer organization, the Haysville Recreation Department assumed the role of offering a youth soccer league. The Recreation Department originally ran the soccer program on the old Peach Capitol Soccer fields near the water tower which were owned by USD 261. Due to school expansion we lost this ground in 2016 and moved play to Dorner Park in the spring of 2019.

Country Lakes Park

Two acres of land was set aside on the west side of Country Lakes for future development. The playground equipment is similar to what is in other neighborhood parks.

Planned Improvements

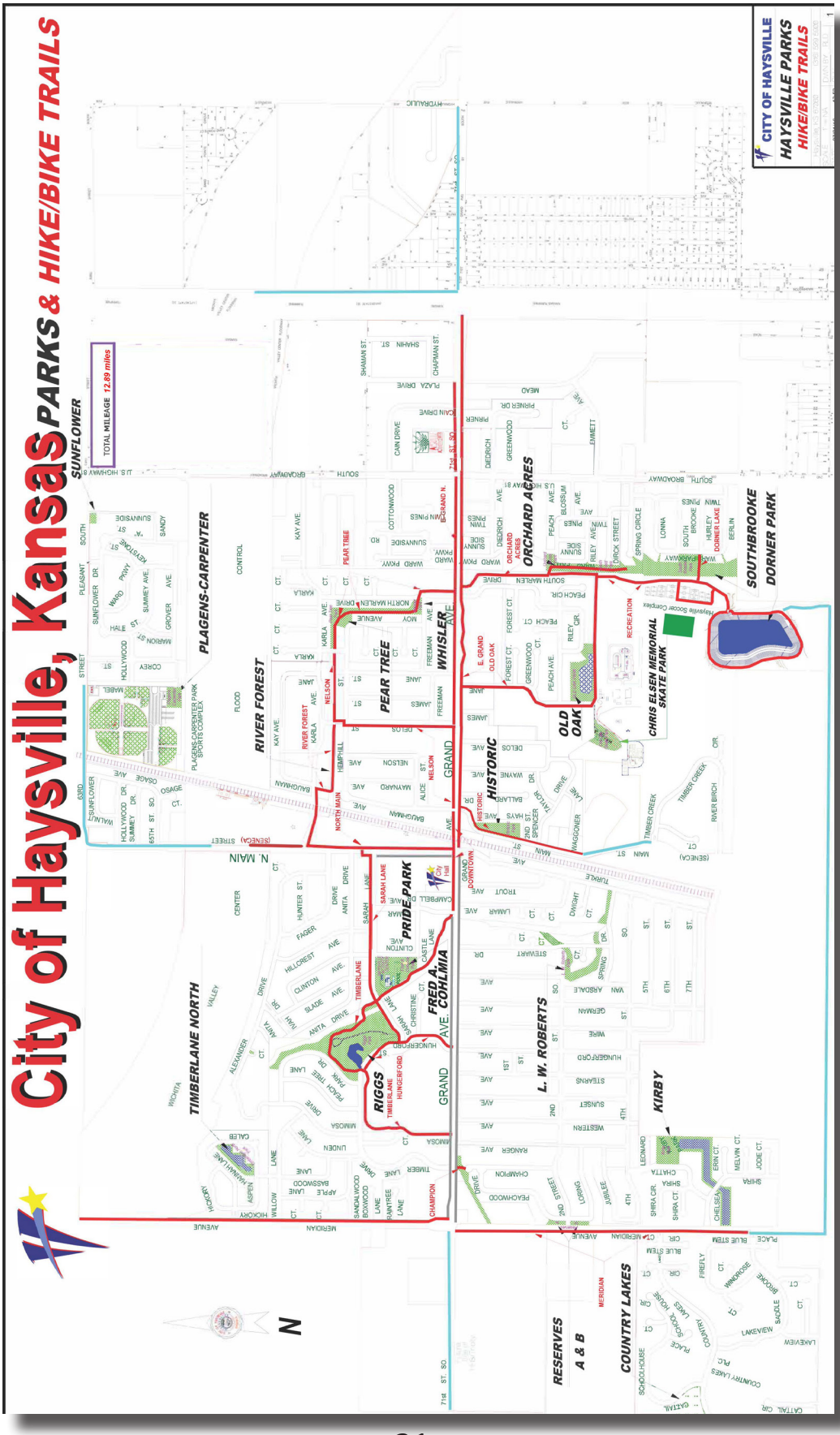
Playground equipment was approved and purchased in 2022. The equipment, canopies, and picnic tables were installed in 2022. An irrigation system will be installed around the playground area in 2023. Park will be evaluated for future needs.

Sunflower Park

The park was part of sunflower improvement district. The sunflower improvement district well fields got saltwater contamination and had to be pulled and plugged. This was one of the reasons for the annexation in the late 1970's. No improvements are planned for this park.

USD 261 Facilities

The track at Haysville Middle School and Haysville West Middle School is open for public use.


City of Haysville, Kansas PARKS & HIKE/BIKE TRAILS
CITY OF HAYSVILLE
HAYSVILLE PARKS
HIKE/BIKE TRAILS
TOTAL MILEAGE 12.89 miles
SUNFLOWER
PLAGENS-CARPENTER
RIVER FOREST
PEAR TREE
WHISLER
ORCHARD ACRES
SOUTHBROOKE
DORNER PARK
OLD OAK
HISTORIC
CHRIS ELSEN MEMORIAL SKATE PARK
PRIDE PARK
FREA-COHLMIA
L. W. ROBERTS
KIRBY
TIMBERLANE NORTH
RIGGS
COUNTRY LAKES
RESERVES A & B
N. MAIN
GRAND
MERIDIAN
N

Haysville Bicycle and Pedestrian Master Plan

The bicyle pedstrian advisory committee was formed in 2015 to support community education regarding bicyclist and pedestrian issues and to advocate for safe access to sidewalks, pathways, and/or roadways for bicyclists and pedestrians. In 2021 this committee was dissoved and dutes were assumed by the Park Board.

Bicycle Rack Current Locations

- Riggs South Park
- Library
- HAC/Pool Area
- City Hall
- Vickers Building
- Senior Center
- Police Station

Future Bicycle Rack Proposed Locations

- Splash Pad
- Rex Practice Fields
- Dorner Park
- Historic District
- Plagens-Carpenter Park
- Old Oak Park

Bicycle Rack Fix-it Stations Locations

- Haysville Activity Center
- Public Works Office
- Vickers Building
- Dorner Park

Future Park Land Needs

As of 2022, the total amount of dedicated park land within the City is approximately 144 acres, which includes Country Lakes and Dorner Park. According to the 2020 Census there were 11,338 people living in Haysville at the time of the enumeration. Assigning a standard acreage in relation to population is no longer a nationally accepted standard of measuring park supply satisfaction. The quality of park development is more important than quantity, which is why the City is choosing to accept cash payments in lieu of park land dedication in subdivisions. One of the goals of the City, if acquiring land, should be to acquire reasonable sized parcels of at least 10 acres to be used for recreational purposes, well in advance of need. New residential growth patterns appear to be to the west and south of existing development, and developers should be encouraged to set aside parcels in these new growth areas to create facilities such as Kirby Park. Emphasis has been put on improving existing recreational facilities.

Plagens-Carpenter Park has become a jointly used facility for both the Haysville Recreation Department and Unified School District 261. In 2015 the Recreation Department took over the youth baseball/softball sports program. With the completion of the two youth fields in 2014, the park can serve as a great asset for building the Recreation Department, bringing people into the community, and meeting long-range needs. The fields behind Nelson Elementary are also now open to the community for practice as scheduled through the Recreation Department. These fields also serve as practice fields for the Recreation Department's youth league.

Hike and Bike Path improvements throughout the City have been considerable and provide a great mode of transportation and aesthetic value. The City should continue to build upon the 12.89 miles of pathways. Links should be included in planning new subdivisions. The River Forest bicycle/pedestrian path in 2015 is a great example of a missing link that was completed from Delos to the north Seneca area. Another example is the completed path on the west side of South Meridian in 2017. This connected the County Lakes development into the system. Future plans include adding a bicycle/pedestrian path on the west side of Merdian down to Chelsea and a path on the west side of Seneca to 63rd. This link will finally connect Ward IV to the rest of the City. The park map shows the plan for making these connections with future trails.